Wastewater Operator Certification Manual

Indiana Department of Environmental Management

Office of Water Quality
Compliance Branch

Updated January 2006

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January 2006

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Part One

Indiana Wastewater Operator Certification Process

***Section One*: General Information**

Why does my facility have to have a certified operator?

Indiana Code (IC) 18-13-11-11 states:

(a) All water or wastewater treatment plants and water distribution systems, whether publicly or privately owned, must be under the supervision of an operator whose competency is certified to by the commissioner in a classification corresponding to the classification of the plant or distribution system to be supervised. However, this section does not prohibit a governmental agency, a corporation, or an individual from continuing to employ in that capacity a person in responsible charge of the operations of the works if the person is certified under section 10 of this chapter.

(b) A certified operator may supervise more than one (1) plant or system if it can be shown that adequate supervision to ensure safe and effective operation is provided for all parts and systems supervised. As added by P. L. 1-1996, SEC.8.

Indiana Administrative Code (IAC) 5-22-1 states:

Sec. 1. The purpose of this rule is to establish:

(1) a classification system of wastewater treatment plants; and

(2) the criteria by which a person may become a certified wastewater treatment plant operator.

The intended result of this rule is to promote excellence among wastewater treatment plant operators for the ultimate goal of protecting Indiana waters receiving treated wastewater discharged from wastewater treatment plants.

How do I know what classification my facility should be?

IDEM will classify your facility. If the facility classification is not specified in your permit or you have questions, please contact the Wastewater Certification Coordinator, at (800) 451-6027, (317) 233-0479 or htippey@idem.IN.gov.

How do I know what classification my operator should be?

The classification of your operator should match the classification of your facility.

What are the operator classifications?

There are eleven operator classifications, five municipal, five industrial, and the Operator-in-Training certification. The municipal classifications are: I-SP, I, II, III, and IV. The industrial classifications are: A-SO, A, B, C, and D. The Operator-in-Training certification does NOT give an operator the authority to be in responsible charge of any facility or to sign reports.

How do I become certified?

You must meet the requirements set forth in the certification rule (327 IAC 5-22) and certification statute: (IC 13-18-11): (1) complete an application to sit for the certification exam, (2) pay a $30 application fee, and (3) pass the exam with a score of seventy percent (70%) or higher. A copy of the certification rule, current at the time of printing, is included in this manual.

The minimum requirements to sit for an exam are one year of acceptable experience at a wastewater treatment plant and a GED or high-school diploma. There is no substitution of education for the one year of experience. "Acceptable experience" means employment in the actual hands-on operation of a wastewater treatment plant. Experience in wastewater treatment plant maintenance will be given fifty percent (50%) credit for operational experience for those

employed solely in this area. Experience in wastewater laboratory will be given full credit for operational experience for those employed solely in this area.

You must have a minimum of one year of acceptable experience in the actual hands-on operation of a wastewater treatment plant to sit for any examination. The application fee is non-refundable per IAC 5-22-12(b). Please contact the Certification Coordinator if you have any questions regarding your eligibility to sit for an exam.

Am I required to display my certificate at work?

YES - if you are in responsible charge of that facility. "Responsible charge" means the person responsible for the overall daily operation, supervision, or management of a water or wastewater facility. A wastewater treatment certified operator must provide permanent and visible display of his or her certificate at the wastewater treatment plant office of each facility supervised.

How do I obtain additional certificates when I am in responsible charge of more than one facility?

A wastewater operator must obtain from IDEM an official duplicate certificate to display in the office of each wastewater treatment plant supervised, if the certified operator supervises more than one wastewater treatment plant. There is no charge for additional certificates. Make a written request to the commissioner and include the information requested in "How do I obtain replacement certificates and cards?" below.

How do I obtain replacement certificates and cards?

There is no charge for the replacement of lost or damaged certificates or cards. A certified wastewater treatment operator in need of a replacement or duplicate certificate must submit a written request to the commissioner, including the following information:

- Class of wastewater treatment operator;
- Name and classification of the wastewater treatment plant to be operated;
- Date of issuance of the original certificate, if known; AND
- Certificate number.

May I have an extra certificate for my home or office?

NO - according to 327 IAC 5-22-14(c)(2), an operator may obtain additional certificates to display in the office of each wastewater treatment plant supervised, if the certified operator supervises more than one plant.

What options do I have if the next certification exam is not scheduled for several months?

A ***provisional certification*** may be granted under certain situations as specified in the certification statute and rule. A provisional certification is granted to the facility and allows the operator to act in responsible charge, under specific conditions, until thirty (30) days following the next scheduled exam. The vacancy may be filled for a period not exceeding one (1) year by an operator with a provisional certification.

Reciprocity allows an operator with a current license in good standing in another state to be granted an equivalent license in Indiana without re-testing. Each reciprocity application is reviewed individually. The State of Indiana does not have reciprocity with all states. Please contact the Wastewater Certification Coordinator, at (800) 451-6027, (317) 233-0479 or htippey@idem.IN.gov to discuss your individual situation.

Do I qualify for a provisional license?

The certification statute (IC 13-18-11-12) states:

(a) When a vacancy in a position of operator occurs due to death, resignation, extended illness, or a similar cause, the vacancy may be filled for a period not exceeding one (1) year by an operator with a provisional certification.

The certification rule (327 IAC 5-22) states:

(c) The commissioner may issue a provisional wastewater treatment operator's certificate if the following occur:

(1) The governing body or owner of a wastewater treatment plant submits a written request specifying a reason necessitating the provisional certification, including one (1) of the following:

(A) To fill a vacancy created by death.

(B) Resignation of the certified operator in responsible charge.

(C) Extended illness of the certified operator in responsible charge.

(2) The written request required by subdivision (1) provides the name, education, and experience of the person for whom the provisional certificate is requested.

(3) The provisional certificate nominee named under subdivision (2) submits, simultaneously with the request submitted under subdivision (1), an application as required by section 11(b) of this rule requesting examination and certification.

(4) The provisional certificate nominee named under subdivision (2) is eligible for the next scheduled wastewater certification examination.

(d) A provisional certificate shall be:

(1) issued by the commissioner in the form of a letter that specifies the conditions of the certification; and

(2) valid for the shorter of the following lengths of time:

(A) The period between the date of application and the end of the thirty (30) day grading period following the next examination that is available to the provisional certificate nominee.

(B) One (1) year.

To apply for a provisional license:

(1) Submit a letter, following the requirements in 327 IAC 5-22-13, from the owner or governing body of the facility requesting the provisional license;
(2) Complete the exam application; AND,
(3) Pay the $30 application fee.

What is reciprocity?

The certification rule (327 IAC 5-22-13) states:

(b) The commissioner may issue a certificate by reciprocity as outlined in IC 13-18-11-9 if the following conditions are met:

(1) A person seeking reciprocal certification submits an application for such a certificate that includes the following:

(A) Proof of current certification.

(B) Classification of the applicant

(2) A person from another state seeking a certificate by reciprocity earns the number of continuing education contact hours for future renewal periods in the time period required

by section 15 of this rule though no continuing education contact hours shall be required at the time of conferring the reciprocal certification.

Reciprocity allows a certified operator to obtain an equivalent certification license in another state. In order for reciprocity to occur, both states must agree to recognize the licenses granted by each other. For example, Indiana currently will grant an equivalent Indiana license based on a current Kentucky license in good standing. Kentucky currently will grant an equivalent Kentucky license based on a current Indiana license in good standing. This is reciprocity. Reciprocity between two states can change quickly. So it is very important to discuss reciprocity with the certification Coordinator near the time that you plan to apply.

To apply for reciprocity:

2) Contact the state that issued your license and ask if that state will grant reciprocity to Indiana operators. While this is not required, we recommend that you it because the application fee is not refundable. If the state will not grant reciprocity to Indiana operators, your application will be denied.
   a) Submit the application for Wastewater Treatment Plant Operator Certification by Reciprocity; AND
   b) Submit $30 application fee to the address specified in the reciprocity application form.

How are reciprocity applications reviewed?

1) After receiving the application and fee, IDEM will send a questionnaire to the Certification Coordinator of the issuing state and request that they certify that you possess a current certification in good standing. We also request a copy of the issuing state's certification rule.
2) Once the questionnaire and certification rule have been returned to the Indiana Certification Coordinator, the application will be reviewed in accordance with 327 IAC 5-22.

Can an operator obtain a Class I or Class A certification based on another certification?

YES - 327 IAC 5-22-11(g)(2) and (3) state that:

(2) A certified operator holding a valid non-industrial wastewater treatment certificate for Class I, Class II, Class III, or Class IV may obtain a Class A industrial certificate without examination by submitting an application required by subsection (b) for the Class A certificate.

(3) A certified operator holding a valid industrial certificate for Class A, Class B, Class C, or Class D may obtain a Class I non-industrial certificate without examination by submitting an application required by subsection (b) for the Class I certificate.

What is the Operator-in-Training certification?

The Operator-in-Training (O-I-T) certification is available to operators who have three months of acceptable experience or who have completed an acceptable training course in wastewater treatment. A certification exam is NOT required for this classification. The O-I-T is valid for one year and cannot be renewed or re-issued. There are no continuing education requirements and this certification does NOT enable an operator to act in Responsible Charge of a wastewater treatment facility. Operators are not required to hold an Operator-in-Training certification prior to holding any other certification.

What about exam prep courses?

The State of Indiana does not require any certain training course prior to sitting for a certification exam. There are many exam prep courses available from private training providers, educational facilities and professional associations. Statistics regarding exam passing rates by municipal/industrial; geographic region; exam level; and, question category are available to training providers and the public upon request. Contact the Wastewater Certification Coordinator for more information.

How do I start preparing for a certification exam?

The best place to begin preparation for a certification exam is with the ***Exam Book List***, available online at http://www.IN.gov/idem/water/compbr/compeval/wwcert.html, by calling or by writing any certification staff member. The Exam Book List specifies the reference books used to prepare each of the ten certification exams. Completed applications to sit for a certification exam **and** the $30 non-refundable application fee should be mailed to the address on the application:

Indiana Department of Environmental Management
Cashier – Mail Code 50-10C
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Please note: the application fee is not refundable even if you are determined ineligible to sit for an exam.

How do I obtain exam reference books?

This information is found on page two of the Exam Book List. Reference books may be obtained from a variety of sources including: the Water Environment Federation (WEF); California State University, Sacramento; the U.S. EPA; and IDEM. Several of these documents may be obtained on-line, with the appropriate Web addresses specified on the book list.

How much time does it take to prepare for a certification exam?

Once all the applicable reference books and study guides have been obtained, the certification office and wastewater training providers generally recommend a minimum of sixty (60) days advance preparation time for a certification exam.

Is it possible to take more than one exam on test day?

Yes, it is possible to take one municipal and one industrial exam on test day. The examinee must submit a separate application and fee for each exam.

If I have registered to sit for an exam, and can't take the test, how do I cancel my registration?

327 IAC 5-22-11 states:

(d) A person who has been notified and scheduled to take an examination:

(1) may submit a written request to the commissioner for a postponement to take the examination one (1) offering later than the examination granted by the commissioner if:

(A) the postponement for a nonemergency reason is requested no later than fourteen (14) days prior to the examination date noticed to the applicant under subsection (c)(2);

(B) the postponement request for an emergency reason is submitted as soon as conditions of the emergency warrant;

(C) the applicant provides the commissioner an explicit description of extenuating circumstances necessitating the requested postponement; and

(D) the applicant understands that only one (1) postponement shall be allowed; or

(2) will be considered to have failed that examination if one (1) of the following occurs:

(A) the person does not attend the examination and has not requested a postponement according to subdivision (1).

(B) The person is caught cheating on an examination, an occurrence that will make an applicant ineligible to take any operator certification examination for a period of two (2) years following the examination date of the incidence of cheating.

If my license expires, can I reinstate it?

Yes, Indiana law gives operators a three-year grace period to reinstate their certification without reexamination.

The agency may reinstate the certification if the certified operator:

- Submits payment of any arrearage of fees;
- Submits payment of the current renewal fee;
- Fulfills arrearage of continuing education credit requirements; AND
- Is current in meeting continuing education credit requirements.

If the operator fails to renew a certificate for three (3) successive years, the operator must reapply and retest in accordance with certification rule 327 IAC 5-22 to become recertified. If the certification rule changes during the period when an operator has allowed a license to lapse, that operator may no longer be qualified to sit for the same exam as before.

Remember that once your license expires, you are no longer certified, even though you are in the three-year grace period. Operators in the three-year grace period may not act in responsible charge of a wastewater treatment facility, sign self-monitoring reports or prepare reports under their expired certification.

How do I maintain my certification?

Certified operators are required to earn continuing education contact hours. (Ten contact hours equal one continuing education unit or C.E.U.)

Certifications must be renewed every two years on or before the last day of June.

- IDEM is required to mail the certification card renewal notification at least thirty days prior to the expiration of the certification card and to the last known address filed with the commissioner.

Renewing your certification card:

- The continuing education requirements must be met
- A renewal is submitted on or before the first day of July of the biennial period for which a certification card is to be issued; and
- The notice is signed and returned by the certified operator to the commissioner.

Information about continuing education requirements can be found in the section below. Application for the approval of courses for continuing education credit may be made to the Wastewater Continuing Education Coordinator.

Section Two: Continuing Education Requirements

(Ref: 327 IAC 5-22-14 and 15)

What are the contact hour requirements for my certification?

1) For each 2-year renewal period, the following continuing education hours are required prior to certification renewal:
   - Class A-SO and I-SP operators need a total of 5 contact hours.
   - Class A, B, I and II operators need a total of 10 contact hours.
   - Class C, D, III and IV operators need a total of 20 contact hours.

- **At least seventy percent (70%) of the required hours must come from the technical category of continuing education courses that deal with technical matters related directly to wastewater treatment.**
- **No more than thirty percent (30%) of the required hours shall come from the general category of continuing education courses that deal with general matters related to the responsibilities of a certified operator.**

2) Training providers must submit an application and receive continuing education course approval from IDEM prior to publicly offering a wastewater continuing education course. Please visit our Web site for a copy of the revised wastewater training course approval form. A copy is also included in this manual. A certified operator may also submit a completed training course application to IDEM prior to or within thirty (30) days of course completion along with written proof of attendance at the course. Course approvals are date and location specific.

   The course must deal with one or more of the following:
   - Technical matters related directly to wastewater treatment.
   - General matters related to the responsibilities of a certified operator.

Please direct any questions or comments about the Wastewater Continuing Education Program to the Wastewater Continuing Education Coordinator at (800) 451-6027, (317) 232-8791

How do I get a training course approved for wastewater credit?

The course approval process required by 327 IAC 5-22-16 is relatively straightforward. Applications for training course approval, which can be found on IDEM's Web site at www.in.gov/idem/water/compbr/compeval/wwcert.html, must be submitted by the training course provider (instructor or organization) at least sixty (60) days prior to the course.

A certified operator may also submit a complete training course approval application to IDEM prior to or within thirty (30) days of course completion along with written proof of attendance at the course.

To apply for training course approval, an applicant must complete the application for training course approval; attach the course content information, including the amount of time spent on each topic; and a bio or resume of the instructor and mail to:

Wastewater Continuing Education Coordinator
IDEM - Office of Water Quality
100 N. Senate Ave, Mail Code 65-42
Indianapolis, Indiana 46204-2251

Can I reuse a course approval number for the same class in the future?

327 IAC 5-22-16(a)(1)(D) specifies that when applying for course approval, the application MUST contain the "…dates and locations where the course will be offered."

YES – if the same class is offered on multiple dates and locations AND all the dates and corresponding locations are provided in the training course approval application. The course approval letter issued by IDEM will list the specific date(s) and location(s) submitted by the training course provider in the course approval application.

NO – if the training course provider plans to offer the course on a date/location NOT included in a previous training course application and not reflected in a previous course approval letter. In this case, a new training course application should be submitted, a new course approval number will be assigned, and the approval letter sent by IDEM.

What types of courses are acceptable for wastewater continuing education hours?

The rule requires that the course deal with one or more of the following:

1) **Technical matters related directly to wastewater treatment**
   (e.g., activated sludge, BOD testing, infrastructure security, etc.)
2) **General matters related to the responsibilities of a certified operator**
   (e.g., first aid/CPR, bloodborne pathogens, OSHA trainings, etc.)

Note: 327 IAC 5-22-15(c) requires that a minimum of seventy percent (70%) of the required continuing education hours shall be obtained from the technical category of approved continuing education courses. No more than thirty percent (30%) of the required continuing education hours shall be obtained from general subject matter.

For example: A Class II operator earns ten (10) contact hours for a general computer course. Three (3) contact hours may be applied toward this operator's certification renewal. The operator still must earn seven (7) contact hours in an approved technical course. Or, a Class D operator takes a twenty (20) hour technical course. All twenty (20) hours can apply toward the certification renewal. The operator is not required to attend any other continuing education courses for this renewal period.

Is there a list of pre-approved courses that I can obtain from IDEM?

NO - IDEM currently does not provide a periodic listing of pre-approved course names, dates and locations. However if you contact our office, we can provide certified operators with a partial listing of trade associations and other course providers and their contact information. It is left up to the certified operators to contact these groups to inquire about any upcoming wastewater continuing education courses. Many of these associations also maintain Web sites that include announcements of upcoming courses with prior or pending approval from IDEM for their specific courses.

When I complete a course, who should send my signed credit reporting form to IDEM so I'll receive credit for the course hours?

327 IAC 5-22-17(c)(2) requires the training course provider to submit the properly completed and signed credit reporting forms to IDEM within thirty days of the conclusion of the continuing education course and to maintain records of all continuing education courses for a period of five (5) years following the completion of each course. IDEM recommends that the certified operator receive a copy of the signed credit reporting form from the course provider for their records.

Can I receive partial credit for a course if I arrive late or leave early?

NO - 327 IAC 5-22-16(e) states, "Partial credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course."

Can I receive continuing education credits for attending trade association conferences or workshops?

YES – there are several trade association conferences or workshops that may be eligible for receiving training course approval. In such instances, the training providers are urged to work with IDEM in advance to determine which sessions of the conference are pertinent to technical matters related to wastewater treatment or general matters related to the responsibilities of a certified operator. These providers must also develop a method of attendance monitoring to precisely verify which sessions of the conference the certified operator attended for credit. Once this has been done, IDEM can complete its review of the training course application and issue a course approval number for all or part of the conference.

Section Three: About IDEM (www.IN.gov/idem)

Compliance Evaluation Section– Office of Water Quality

Certification and Continuing Education Group
This group is responsible for administration of the wastewater certification exams, provisional and reciprocal certifications, receipt and tracking of continuing education credit reports, training course approvals, certification renewals, etc.

Compliance Group
The Compliance Group is responsible for receiving and logging bypass/overflow reports, administering the sewer ban program, and evaluating the compliance of wastewater treatment facilities with their NPDES permits and addressing instances of non-compliance.

Pretreatment Group
This group is responsible for implementing the state pretreatment program rules and working with U.S. EPA Region 5 to administer the national pretreatment requirements in Indiana. The national pretreatment standards consist of two sets of rules, prohibited discharge standards and categorical pretreatment standards.

There are currently 45 pretreatment cities in Indiana that run local pretreatment programs. If you are discharging process wastewater to one of these POTWs, you must apply for a discharge permit from that local program. Each program does its own permitting, inspecting, sampling and enforcement. The POTW shall control, through permits or other control mechanism, the contribution to the POTW from each Significant Industrial User [40 CFR 403.8 (f)(iii)]. IDEM oversees each program by performing occasional audits.

Categorial dischargers and Significant Industrial Users not located in a pretreatment city must apply to IDEM for an Industrial Wastewater Pretreatment (IWP) permit and must meet the specific requirements in an issued permit. These permits are prepared by staff in the Permits Branch. Please see *Part III. Permits* of this manual for more information.

Laboratory Assistance
Laboratory technical assistance is provided to operators by phone, online at http://www.in.gov/idem/water/compbr/inspections/index.html in the form of the QA/QC Methods Manual for Wastewater Laboratories, and by occasional facility audits. Laboratory technical assistance staff also conducts various quality assurance/quality control projects and operations and maintenance award programs.

Data and Information Services Section – Office of Water Quality

The Data and Information Services Section, in addition to other duties:

- Processes all reporting requirements for NPDES permits
- Assists in the maintenance of the Office of Water Quality Web site
- Enters and extracts data from the U.S. EPA's Permit Compliance System (PCS) that includes:
  - General Permit Facilities
  - Industrial Major Facilities
  - Operational Permit Facilities
  - State and Federal Facilities
  - Storm Water Permit (Rule 5, 6 & 13) Facilities
  - Unpermitted Dischargers

Inspections Section – Office of Water Quality

IDEM is responsible for tracking the compliance of wastewater treatment facilities to the NPDES rules & regulations. IDEM employs field inspectors who are responsible for site visits to wastewater plants for the purpose of observing NPDES compliance. Facility inspections are usually performed at a facility every year. Plants that are having compliance problems may receive inspections more frequently.

Inspections are conducted without prior notification, in order for the inspector to see normal operating conditions, with no opportunity for facility staff to "fine tune" or spruce up for a visit.

Inspections Group

So what does an inspector want to see in particular whenever he/she visits for an inspection? Most NPDES inspections follow a predetermined format that is set by guidance from EPA. The NPDES permit for each wastewater facility specifies a certain set of conditions that must be met in order to assure the discharge of pollutants to the waterway is minimal. The self-monitoring program for each plant is the foundation for proper evaluation of facility compliance. The inspector will focus first on whether the operation and maintenance at the plant does assure a reliable self-monitoring program.

In order to assess the self-monitoring program, the inspector will ask to review monitoring records. All monitoring records must be kept on site for a minimum of three years. Monitoring records include state reports, sampling reports or bench sheets, chain of custody sheets, operator log sheets, flow measurement records, calibration records, and other miscellaneous reports. These reports and records must be clear, concise, and include all information required by the NPDES permit.

The inspector will be interested in determining whether the data included on the reports can be judged reliable. In order to do that, he/she will examine lab procedures and equipment, sampling procedures and equipment, on-line monitoring instruments, and operation and maintenance procedures of all pumps and treatment units.

At wastewater plants with particular problems maintaining compliance, the inspector may attempt to locate and identify the source of the problems or an IDEM operator assistance specialist may be contacted to work with plant staff to solve compliance problems.

Technical Assistance Group

Technical assistance staff provide on-site, hands-on assistance in the proper operation of wastewater treatment plants. They also provide management assistance and promote the involvement of community officials in the operation of wastewater plants. The objective of the 104-g-1 technical assistance program is to assist community wastewater treatment plants (less than 5.0 MGD) in complying with the requirements of the NPDES permit.

Facility Construction Section – Office of Water Quality

Indiana Administrative Code 327 IAC 3, "Wastewater Treatment Facilities; Issuance of Permits; Construction and Permit Requirements" establishes requirements and procedures for obtaining construction permits for the construction or modification of sanitary sewers and wastewater treatment facilities. Also included in this rule are technical standards for the design and installation of sanitary sewers.

The rule, per 327 IAC 3-2-1, requires that construction permits be obtained prior to the start of construction, installation or modification of any water pollution treatment/control facility or

sanitary sewer. There are specific exclusions to the requirement of a construction permit listed in 327 IAC 3-2-4 "Exclusions".

All projects for new sanitary sewers or extensions of existing sanitary sewers (including lift stations and force mains) require an issued permit. Only house connections (laterals) for single family homes are always excluded from permit requirements. Building connections for other types of individual buildings are also excluded provided that they will not convey toxic waste or other pollutants that would require pretreatment prior to discharge to the receiving wastewater treatment facilities.

All projects for new wastewater treatment facilities require a permit; however, modifications to existing facilities may not. A permit is not required if the modification meets the exclusion described in 327 IAC 3-2-4(11). In general, this exclusion applies to normal maintenance and the replacement of equipment. It includes the addition of new equipment or structures that will not be used to increase the existing treatment capacity of the existing facility. Any modification that would enable the treatment of additional flow or pollutant load would require a permit.

The rule also requires that projects for which permits must be issued, the design must be certified (stamp on plans and specifications) by a professional engineer or land surveyor (land surveyor for gravity sewer projects only) who is registered in Indiana. This certification is intended to assure that the design complies with all required standards.

Permits Sections – Office of Water Quality

National Pollutant Discharge and Elimination System (NPDES) permits are required for the discharge of municipal and industrial pollutants to waters of the state. Please see *Part III. Permits* of this manual for more information.

Wet Weather Section – Office of Water Quality

Storm Water Group

The Storm Water Group manages the permitting of large municipal storm water dischargers, storm water associated with industrial activity (Rule 6), storm water associated with construction activity (Rule 5) and storm water associated with MS4's (Rule 13).

- Rule 5: Storm Water Run off Associated with Construction Activity
  Requirements of the rule apply to all persons who are involved in construction activity (which includes clearing, grading, excavating and other land disturbing activities) that results in the disturbance of one or more acres of land area.
- Rule 6: Storm Water Run off Associated with Industrial Activity
  Requirements of this rule apply to specific categorical industrial facilities that have a point source discharge of storm water associated with industrial activity from their facility. This rule includes a "No Exposure Certification" exemption for any designated industries.
- Rule 13: Storm Water Run off Associated with Municipal Separate Storm Sewer Systems (MS4s)
  a) Permitted MS4 areas are defined by location within or contiguous to a mapped 2000 United States Census Bureau urbanized area and meeting other specific criteria. The permit objective is to protect and/or improve the quality and quantity of storm water run off from conveyance systems (i.e. – piping, ditches, etc.)
  b) Under Phase I, this general permit rule was not needed. Phase I dealt with the MS4 areas serving an urbanized population greater than 100,000 people. Only the City of Indianapolis met Phase I criteria, and was issued an individual permit under Phase I.

c) Under Phase II, Rule 13 has been written to include MS4 areas serving an urbanized population greater than 7,000 people.

Combined Sewer Overflow Group

The Combined Sewer Overflow Group augments the NPDES Municipal permitting program by implementing a strategy for the maintenance and management of combined sewer collection systems. The primary objective of this group is to insure the minimization of impacts to waters of the state from combined sewer overflows (CSOs).

Section 401 Water Quality Certification Program – Office of Water Quality

The Indiana Department of Environmental Management (IDEM) administers the Section 401 Water Quality Certification (WQC) Program. IDEM regulates the placement of fill materials, excavation, and mechanical clearing of wetlands and other water bodies. IDEM draws its authority from the federal Clean Water Act and from Indiana's water quality standards.

IDEM regulates activities in conjunction with the U.S. Army Corps of Engineers. Any person who wishes to place fill materials, excavate or dredge, or mechanically clear (use heavy equipment) within a wetland, lake, river, or stream must first apply to the Corps of Engineers for a Section 404 permit. If the Corps of Engineers decides a permit is needed, then the person must obtain a Section 401 Water Quality Certification from IDEM.

IDEM reviews the proposed activity to determine if it will comply with Indiana's water quality standards. IDEM will require that the applicant avoid impacts, minimize impacts, and provide compensatory mitigation for adverse impacts to wetlands and other waters. IDEM will deny water quality certification if the activity will cause adverse impacts to water quality, such as cases where the preceding steps are not followed or cases where compensatory mitigation cannot offset adverse impacts to water quality. A person may not proceed with a project until they have received a certification from IDEM.

State Revolving Fund Loan Program

Purpose

The purpose of the State Revolving Fund Loan Programs is to provide low-cost financial assistance in order to construct necessary and environmentally sound drinking water and wastewater infrastructure; to facilitate statewide compliance with state and federal drinking water and water quality standards; to maintain a fiscally self-sufficient program as a continuing source of funding for improvement and protection of public health and water quality; and to conduct any other activity permitted by the Safe Drinking Water Act or the Clean Water Act.

Eligibility

Political subdivisions such as cities, towns, counties, regional sewer/water districts, conservancy districts, and water authorities are eligible for this program. For drinking water SRF loans, private and not-for-profit public water systems are also eligible.

Where Does the Money Come From?

Political subdivisions such as cities, towns, counties, regional sewer/water districts, conservancy districts, and water authorities are eligible for this program. For drinking water SRF loans, private and not-for-profit public water systems are also eligible.

How Does A Community Apply for SRF Assistance?

An eligible entity can submit an application at any time to the SRF Program. Project funding is contingent upon the project's ranking on the Project Priority List, project readiness and funds availability.

What Types of Projects are Eligible for SRF Funding?

Any project where there is an existing water pollution abatement or public health need is eligible for SRF funding.

Wastewater projects include:

- Treatment plant improvements & upgrades upgrades
- Sewer line extensions to existing properties
- Combined Sewer Overflow (CSO) corrections
- Infiltration / inflow projects
- Decentralized systems

Drinking water projects include:

- Treatment plant improvements &
- Water line extensions
- Water storage facilities
- Water supply

Non-point source projects in tandem with a Wastewater project may reduce the interest rate by 0.5% and include the following projects"

- Wetland protection and restoration measures
- On-site sewage disposal
- Best Management Practices for agriculture and stormwater runoff
- Ground water and surface water remediation

What Type of Projects are Ineligible for SRF Funding?

- Projects that are solely intended for economic development (i.e., induced growth)
- Projects that are primarily for fire suppression
- Stormwater projects that have no environmental benefits (flood management)

Loan Terms

- The SRF loan is a fixed rate, 20-year loan
- Interest rates reset quarterly and are at or below 90% of the average 20-year AAA-rated, general obligation bond Municipal Market Data. Rates are further discounted based on the entity's median household income (from current census data) and local user rates.
- Costs associated with the planning of the project (including engineering and financial planning) may be rolled into the loan.

The Water Pollution Control Board

The Water Pollution Control Board was established as an independent board under Indiana Code 13-18-1. State statutes provide authority for the water pollution control board to adopt rules regarding various water pollution matters. IC 13-18-3-2 provides the board the authority to adopt rules necessary for the implementation of the Federal Water Pollution Control Act and the Federal Safe Drinking Water Act. IC 13-18-3-1 provides the board the authority to adopt rules for the control and prevention of pollution in waters of Indiana and prevent any fish life or any beneficial animal or vegetable life from being destroyed or injured.

The board has eleven (11) members, a technical secretary, and a legal counsel. The technical secretary and legal counsel are not voting members of the board, and may not be state employees. There are three (3) ex officio representatives on the board, who represent other state agencies and interests in water regulations. The remaining eight (8) members are representatives of various constituencies, and are appointed by the governor. The procedure the board and the department must follow in adopting rules is also set out in statute, in IC 13-14-9.

Water Pollution Control Board information was obtained from the IDEM Web site. For current membership of the Water Pollution Control Board, please see the IDEM, Rules Internet home page at http://www.IN.gov/idem/rules/boards.html#water.

Section Four: **Application Forms and Exam Book List**

Included in this section are the following:

1. Application for Approval of Training For Wastewater Operator Continuing Education Credit
2. Wastewater Operator Continuing Education Credit Report
3. Exam Book List
4. Instructions for Completing the Wastewater Certification Exam Application Form
5. Application for Wastewater Treatment Plant Operator Certification Examination

APPLICATION FOR APPROVAL OF TRAINING FOR WASTEWATER OPERATOR CONTINUING EDUCATION CREDIT

State Form 51138 (11-02)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FOR IDEM USE ONLY
Approval Number:
Technical Contact Hours:
General Contact Hours:

INSTRUCTIONS

In accordance with 327 IAC 5-22-16, this application must be properly completed for all training courses for which wastewater continuing education credit hours are requested. Forms are due at least 60 days in advance, but no later than 30 days after course completion. Mail the completed form to:

Wastewater Continuing Education Coordinator
Indiana Department of Environmental Management
Mail Code 65-42
100 N. Senate Ave.
Indianapolis, IN 46204-2251

Notice of application approval and IDEM approval number must be obtained before continuing education contact hours are allowed. Any change in instructor, course presentation, course date(s) or location(s) will require reevaluation. Providers of approved training must comply with the requirements of 327 IAC 5-22-17.

1. NAME OF TRAINING COURSE:

2. NAME OF TRAINING COURSE PROVIDER:

3. NAME OF TRAINING PROVIDER CONTACT PERSON:	**4. TELEPHONE NUMBER:**

5. TRAINING PROVIDER ADDRESS (number and street, city, state, zip code):

6. NAME OF ORGANIZATION SPONSORING COURSE (If different than provider in #2 above):

7. SPONSOR ADDRESS (number and street, city, state, zip code):

8. COURSE INSTRUCTOR(S):

Name: Indiana Certified Operator? o YES Certification #:_____ o NO Occupation (attach resume or bio):	Name: Indiana Certified Operator? o YES Certification #:_____ o NO Occupation (attach resume or bio):

9. METHOD OF ATTENDANCE MONITORING AND VERIFICATION (be specific or attach samples):

10. COURSE CONTENT - Application cannot be evaluated without the following information:
q Attach either an outline or narrative, brochure, agenda, workbook, etc. that includes specific topics that are included in the course presentations.

q Include amount of time spent on each topic. Indicate and provide explanation whether the topic deals with technical matters related directly to wastewater treatment or general matters related to the responsibilities of a certified operator.

11. TECHNICAL CONTACT HOURS:	**12. GENERAL CONTACT HOURS:**	**13. TOTAL # OF CONTACT HOURS FOR COURSE** (Technical plus General Hours): * A contact hour is defined as a 50-60 minute instruction session involving a qualified instructor or lecturer.

14. LIST ALL DATE(S) AND CORRESPONDING LOCATION(S) WHERE COURSE APPROVAL IS REQUESTED:

15. SEND A COPY OF THE COURSE APPROVAL LETTER TO THE FOLLOWING INDIVIDUALS:

Name:	Name:
Address:	Address:

WASTEWATER OPERATOR CONTINUING EDUCATION CREDIT REPORT

State Form 51139 (11-02)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

To ensure proper credit, the wastewater approval number MUST be provided.
Training Course Approval Number:
Technical Contact Hours Earned:
General Contact Hours Earned:

INSTRUCTIONS:

In accordance with 327 IAC 5-22-17(c), the training provider must submit this form within thirty (30) days of the conclusion of the wastewater treatment continuing education course. Mail the completed form to:

Wastewater Continuing Education Coordinator
Indiana Dept. of Environmental Management
Mail Code 65-42
100 N. Senate Ave.
Indianapolis, IN 46204-2251

- Incomplete forms will be returned to the training course provider for completion and resubmitted to IDEM
- Partial course credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course.
- The training provider must retain a copy of this form for their records for a five (5) year period following the presentation of each wastewater treatment continuing education course.
- Training providers are encouraged to provide a copy of the completed and signed credit reporting form to the certified operator attending the entire wastewater operator continuing education course.

CERTIFIED OPERATOR INFORMATION

1. NAME:			
2. ADDRESS (number and street):			
City:	State:	ZIP code:	Telephone number:

Check here if this is an address change _____

COURSE INFORMATION

3. NAME OF TRAINING COURSE:	
4. NAME OF ORGANIZATION SPONSORING COURSE:	
5. TOTAL NUMBER OF CONTACT HOURS ATTENDED BY CERTIFIED OPERATOR AND VERIFIED BY INSTRUCTOR AND TRAINING COURSE PROVIDER:	
Technical Contact Hours:	General Contact Hours:
6. DATE(S) ATTENDED:	**7. LOCATION ATTENDED:**
8. PRINTED NAME OF INSTRUCTOR:	**9. SIGNATURE OF INSTRUCTOR:**
10. PRINTED NAME OF CERTIFIED OPERATOR:	**11. SIGNATURE OF CERTIFIED OPERATOR:**

12. CONTINUING EDUCATION CREDIT HOURS ARE TO BE APPLIED TO:

Operator certification number:	Class:	Expiration date:
Operator certification number:	Class:	Expiration date:

2006 Exam Book List

	I-SP	I	II	III	IV	A-SO	A	B	C	D
1	X[1]	X	X	X	X		X			
2	X[2]	X	X	X	X		X	X[3]	X[3]	X[3]
3				X	X					
4								X	X	X
5								X	X	X
10	X	X	X	X	X	X	X	X	X	X
11	X									
12						X				
14			X	X	X			X	X	X

[1] Study only Chapter 3 (Wastewater Treatment Facilities) of Book #1
[2] Study only Chapter 15 (Maintenance) and Chapter 16 (Laboratory Procedures and Chemistry) of Book #2
[3] Study only Chapter 16 (Laboratory Procedures and Chemistry) of Book #2

Reference Books

1. Operation of Wastewater Treatment Plants, Volume I, Fifth Edition, 2002, $22.00
2. Operation of Wastewater Treatment Plants, Volume II, Fifth Edition, 2001, $27.00
3. Advanced Waste Treatment, Third Edition, 1995, $22.00
4. Industrial Waste Treatment, Volume I, Second Edition 1999, $22.00
5. Industrial Waste Treatment, Volume II, Second Edition 2001, $22.00

10. Wastewater Operator Certification Manual, January 2006, **free on-line**

NOTE: ***New in 2005 are municipal exam questions regarding WWTP Security Information based on Protecting your Community's Assets: A Guide for Small Wastewater Systems, found in Part V, Section 3 of this manual.***

11. Stabilization Ponds, U.S. EPA Operation Manual, August 1977, **free from IDEM**
12. Study Guide for A-SO Operators, December 2002, **free on-line**
14. Introduction to the National Pretreatment Program, February 1999, **free on-line**

FOR SPECIFIC AREAS OF STUDY IN THESE BOOKS, PLEASE CHECK THE AVAILABLE STUDY GUIDES.

How to Obtain Exam Reference Books

Books 1 – 5
California State University, Sacramento
ATTN: Dr. Ken Kerri
Department of Civil Engineering
Sacramento, CA 95819-2964
(916) 278-6142;
Web site: http://www.owp.csus.edu
E-mail: wateroffice@csus.edu\

Book 10
Wastewater Operator Certification Manual-
January 2006

IDEM Office of Water Quality
Compliance Section
(317) 233-0419, Certification Staff
Web site: www.in.gov/idem/water/compbr/compeval/wwopcertman.html

NOTE: Bound copies of *Protecting your Community's Assets: A Guide for Small Wastewater Systems can be requested from the National Environmental Services Center for Small Communities, West Virginia University, P.O. Box 6064, Morgantown, WV 26506 or by calling 1-800-624-8301.*

Book 11
Stabilization Ponds, U.S. EPA Operation Manual
IDEM Office of Water Quality
Compliance Section
(317) 233-0419, Certification Staff
Publication not available on-line at this time.

Book 12
Study Guide for A-SO Operators, Dec. 2002

IDEM Office of Water Quality
Compliance Section
(317) 233-0419, Certification Staff
Web site: www.in.gov/idem/water/compbr/compeval/sg/a-so-sg.pdf

Book 14
Introduction to the National Pretreatment Program
U.S. EPA – Office of Water Resource Center
Phone: (202) 566-1729
Web site: http://www.epa.gov/npdes/pubs/final99.pdf
(requires Adobe Acrobat reader to view)
Publication #: EPA-833-B-98-002, Feb. 1999

Instructions for Completing the Wastewater Certification Exam Application Form

NEXT SCHEDULED EXAMS	APPLICATION DEADLINE
April 27, 2006	**Postmarked by March 13, 2006**
October 12, 2006	**Postmarked by August 28, 2006**

- Obtaining the Exam Application Form and Submitting Completed Application With Fee to IDEM
  The exam application is available online at the IDEM website at:

  http://www.in.gov/idem/water/compbr/compeval/wwcert.html

  At this time, applications are not available to be submitted electronically. Please print the application form, **complete all requested information**, sign it, include the supervisor signature and mail to IDEM with all supporting documents and the $30 application fee. Mail completed application and the $30 examination fee **as early as possible but no later than the postmark deadline**, to:

  Indiana Department of Environmental Management
  100 N. Senate Ave– Mail Code 50-10C
  Indianapolis, Indiana 46204-2251

  Applications postmarked after the deadline will only be considered for the next exam. Application forms may also be obtained directly from this office at any time.

- Acceptable Experience
  The definition of "acceptable experience" may be found in 327 IAC 5-22-3(1). "Acceptable experience" means employment in the actual **hands-on operation of a wastewater treatment plant**. Experience in wastewater treatment plant maintenance will be given fifty percent (50%) credit for operational experience for those employed solely in this area. Experience in wastewater laboratory will be given full credit for those employed solely in this area. Please refer to 327 IAC 5-22 to determine the classification of your facility, amount and type of experience and education you need; and substitutions allowed.

- When Taking More Than One Exam
  Please complete a separate application for each exam you wish to take. There is a $30 fee for each exam. You may sit for one municipal and one industrial examination each regularly scheduled exam.

- Completing the Exam Application

  Section I - Please print all of the information requested in this section. Your home address is preferred. Indicate whether you have previously applied for wastewater certification. If yes, indicate the highest certification held and the certificate number.

  Section II - Indicate whether you are a high school graduate or hold a GED. If neither, circle the highest grade completed. If you do not hold a high school diploma or GED, you will be required to substitute experience for the lacking high school education.

  Section III - List all wastewater treatment plant experience starting with your current position. Include all of the information requested. Please be specific. If your position title and job duties are not specific, credit will not be given. ***If a portion of your duties do not meet the definition of acceptable experience, please estimate the percentage of your time (hours per week) spent in acceptable experience duties and note this on your application.**

  Section IV – Mandatory for Class III, IV, C and D applicants to complete; optional for other classes. List specific responsible charge duties. The definition of "responsible charge experience" may be found at 327 IAC 5-22-3(10).

  Section V - Please read the statement, sign and date the application.

  Section VI - This section must be completed by your supervisor.

FOR OFFICE USE
Classification
Status
Location
Remarks:

APPLICATION FOR WASTEWATER TREATMENT PLANT OPERATOR CERTIFICATION EXAMINATION

State Form 47289 (R3 / 2-04)
Approved by State Board of Accounts - 2004
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Pursuant to 327 IAC 5-22

NOTE: A $30.00 FEE MUST BE SUBMITTED WITH EACH APPLICATION FOR CERTIFICATION. APPLICATIONS MUST BE SIGNED BY THE INDIVIDUAL, AND HIS/HER SUPERVISOR. FAILURE TO FILE A PROPERLY COMPLETED APPLICATION MAY RESULT IN THE APPLICATION BEING DISAPPROVED. APPLICATIONS ARE DUE NO LATER THAN 45 DAYS PRIOR TO THE DATE OF THE EXAMINATION. (APPLICATION FEE IS NONREFUNDABLE.)

This is an application for a Class: (*circle one*)	Industrial: A-SO A B C D Municipal: I-SP I II III IV
Would you accept a lower classification if not eligible for Class circled above?	☐ Yes ☐ No

I. GENERAL INFORMATION (*please type or print legibly*)

A. Name of applicant (*last, first, middle*) ☐ Mr. ☐ Miss ☐ Mrs. ☐ Ms.			
B. Mailing Address (*number and street*):			
City:	State:	ZIP code:	County:
Office telephone number: ( )		Home telephone number: ( )	
Fax number: ( )		E-mail address:	
C. Date of birth:		D. Have you ever applied for wastewater certification in Indiana before? ☐ Yes ☐ No	
E. Are you presently a certified operator in Indiana? ☐ Yes ☐ No		Certification Number:	Expiration Date:

II. EDUCATION AND TRAINING

List below all high schools and post high schools attended.

	Name/Location of School	From (Month/Year)	To (Month/Year)	Diploma (GED) or Type of Degree and Date of Graduation
High Sch. Grad? ☐ Yes ☐ No				
College Grad? ☐ Yes ☐ No				
Other:				

If you are applying for Class IV / Class D certification, original transcripts must be enclosed. For the consideration of using college education to substitute for work experience, original college transcripts must be enclosed.

☐ If you would like to have your original transcripts returned, please check the box and enclose a self-addressed, stamped envelope.

Specialized Training or Classes Relevant to Certification

Title of Specialized Training or Class	Company/School Attended	Dates Attended	Credits or Contact Hours[1] earned:

Copies of credit report forms or proof of attendance must be enclosed.

III. OPERATIONAL EXPERIENCE HISTORY

List your current assignment first. Show all *acceptable experience* in wastewater treatment plants. "Acceptable experience" means employment in the actual hands-on operation of a wastewater treatment plant. Experience in wastewater treatment plant maintenance will be given fifty percent (50%) credit for operational experience for those employed solely in this area. Experience in wastewater laboratory will be given full credit for operational experience for those employed solely in this area.

Date (Month/Year)		**Position Information**		
From:	**To:**			
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*<u>be specific</u>, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*<u>be specific</u>, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*<u>be specific</u>, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*<u>be specific</u>, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*<u>be specific</u>, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		

IV. RESPONSIBLE CHARGE EXPERIENCE

(must be completed by Class III, IV, C, and D applicants; optional for other classes)

List specific duties for positions of responsible charge. "Responsible charge" means the person responsible for the overall daily operation, supervision, or management of a water or wastewater facility. In Class III, IV, C, or D plants, the individual supervising and responsible for a major section of the plant or an operating shift may be credited with responsible charge experience. Additional sheets may be attached, as necessary.

Date (Month/Year)		**Position Information**		
From:	**To:**			
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*be specific, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*be specific, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*be specific, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*be specific, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		
		Position Title	Name of Facility & State	Certified Operator's Name
Hours Per Week		Classification of Facility	Type of Treatment	Average Flow
		Daily Job Duties (*be specific, include what percentage of your time is/was spent in hands-on operation at a WWTP under the supervision of a certified operator)*		

V. SIGNATURE OF APPLICANT

I, the undersigned, certify that I am the above applicant; that all statements made and information regarding education, training, acceptable experience and responsible charge experience are true and correct to the best of my knowledge and belief; that I understand that any omissions or misrepresentations may result in ineligibility for the examination applied for, revocation of any certification granted or voiding a decision made regarding my application. I also consent to verification of my qualifications for the certificate for which I have applied.

Signature of applicant	Date (month, day, year)

VI. SIGNATURE OF APPLICANT'S SUPERVISOR

I, the undersigned, hereby certify the information contained in Sections II, III, and IV of this application is true and correct to the best of my knowledge.

I have supervised this individual for _____ years.

Signature of Supervisor		Date (month, day, year)
Printed Name of Supervisor	**Title**	**Wastewater Cert. Number, if applicable**
Name of Organization		
Address (number and street name, city, state, zip code)		
Telephone number:	**Fax Number:**	

The completed application, along with all required fees and attachments should be mailed to:

Cashier
Indiana Department of Environmental Management
Mail Code 50-10C
100 N. Senate Ave.
Indianapolis, IN 46204-2251

Please make all checks payable to the Indiana Department of Environmental Management.

DO NOT SEND CASH.

Part Two

Rules and Regulations

Section One: Rules and Regulations Study Questions

Introduction

The following questions and Answers were derived from Indiana Administrative Code (IAC) Title 327 Water Pollution Control Board. Please refer to the disclaimer at the beginning of this manual. For the purpose of this manual and the certification exams, only portions of 327 IAC are represented. Please refer to the entire rule for any other purpose.
The Rules and Regulations Study Guide generally includes lengthy answers to the questions. However, operators are not expected to memorize these lengthy answers for the certification exams. **Operators should be able to distinguish the correct answer to a question given the correct answer among several incorrect answers.** Citations (for example, 327 IAC 2-1-1.5) are included for your convenience and will not be on the exams. Formulae sheets will be provided on exam day. Although operators are not required to memorize formulae, formulae may be presented in a different form on the exam. **All operators are expected to be able to make conversions and rearrange formulae in order to complete the mathematics portion of the certification exams.**

327 IAC ARTICLE 2. Water Quality Standards

1) What are the goals of the state regarding water quality?
Answer

The goals of the state regarding water quality are to restore and maintain the chemical, physical and biological integrity of the waters of the state.

In furtherance of this primary goal:

(a) It is the public policy of the state that the discharge of toxic substances in toxic amounts be prohibited; AND
(b) It is the public policy of the state that the discharge of persistent and bioconcentrating toxic substances be reduced or eliminated.

Source: 327 IAC 2-1-1.5

2) All surface waters of the state are designated for ____A____ . Also, all waters of the state, except limited use waters, must be capable of supporting a well-balanced, warm water ____B____ community.
Answer

(a) Full-body contact recreation.
(b) Aquatic.

Source: 327 IAC 2-1-3(a)

3) All waters at all times and at all places, including the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges. What are four types of undesirable conditions or substances?
Answer

(a) Substances that will settle to form putrescent or otherwise objectionable deposits.
(b) Substances that are in amounts sufficient to be unsightly or deleterious.
(c) Substances that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance.
(d) Substances which are in amounts sufficient to be acutely toxic to, or otherwise severely injure or kill aquatic life, other animals, plants, or humans.

Source: 327 IAC 2-1-6(a)(1)

4) Water quality standards differ for the Great Lakes region and the rest of the waters of the state. What are the four basic numerical categories of the state water quality standards for the State of Indiana?

Answer

(a) Acute (short-term) toxicity to aquatic life.
(b) Chronic (long-term) toxicity to aquatic life.
(c) Human health effect for stream water (outside mixing zone).
(d) Human health effect for water at water intakes of drinking water supply.

Source: 327 IAC 2-1-2, outside of the Great Lakes region / 327 IAC 2-1.5-8, the Great Lakes region

5) For a given pollutant (heavy metals, pesticides, etc.), the values of water quality criteria based on chronic aquatic toxic level are _____ than those based on acute aquatic toxic level.

Answer

Generally lower, or more stringent.

Source: 327 IAC 2-1-6(a) Tables 1&2

6) My wastewater treatment plant receives brine wastes from water softeners. Do I have to be concerned about the salt content of my discharge?

Answer

Yes. The salt discharge could increase the dissolved solids concentration of your discharge. The state water quality standards require that dissolved solids shall not exceed 750 mg/l in all waters.

Source: 327 IAC 2-1-6(a) Table 1 - footnote

7) What is the minimum dissolved oxygen requirement in surface waters of the State of Indiana?

Answer

Concentrations of dissolved oxygen shall average at least five (5.0) milligrams per liter per calendar day and shall not be less than four (4.0) milligrams per liter at any time.

Source: 327 IAC 2-1-6(b)(3)

8) The City Parks Department asked the WWTP Superintendent if the water of a local river is safe to hold a water skiing competition. What bacterial criteria should be considered when evaluating water quality for recreational use?

Answer

All waters of the state are designated for full-body recreational use and must be in compliance with the bacteriological criteria for full-body contact recreational uses for the months of April through October, inclusive.

E. coli bacteria, using membrane filter (MF) count, shall not exceed 125 per 100 ml as a geometric mean based on not less than five samples equally spaced over a 30-day period, nor exceed 235 per 100 ml in any one sample in a 30-day period.

Source: 327 IAC 2-1-6(d)

9) The conditions for temperature in the waters of the state, except for Lake Michigan, are:

Answer

(a) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
(b) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.
(c) The maximum temperature rise at any time or place above natural temperatures shall not exceed five degrees Fahrenheit (5°F) in streams and three degrees Fahrenheit (3°F) in lakes and reservoirs.
(d) Water temperatures shall not exceed the maximum limits in Table 3 during more than one percent (1%) of the hours in the twelve-month (12) period ending with any month. At no time shall the water temperature at such locations exceed the maximum limits in Table 3 by more than three degrees Fahrenheit (3°F).

Source: 327 IAC 2-1-6(b)(4)

10) Taste and odor producing substances, other than naturally occurring:

Answer

Shall not interfere with the production of a finished water by conventional treatment consisting of coagulation, sedimentation, filtration, and disinfection.

Source: 327 IAC 2-1-6(e)

11) The concentrations of either chlorides or sulfates shall not exceed _____ .

Answer

Two hundred fifty milligrams per liter (250 mg/l), other than due to naturally occurring sources.

Source: 327 IAC 2-1-6(e)

327 IAC ARTICLE 4. Wastewater Treatment Facilities; Overload Condition

1) What is the purpose of "327 IAC, Article 4, Wastewater Treatment Facilities; Overload Condition"?

Answer

The purpose is to prevent the excessive hydraulic and/or organic overloading of POTW's or semipublic facilities resulting in the subsequent discharge or bypassing of insufficiently treated sewage due to new sewer connections to such overloaded POTW's or semipublic facilities.

Source: 327 IAC 4-1-1

2) What is a "combined sewer"?

Answer

It is a sewer designed and employed to receive both water-carried and/or liquid wastes and storm and/or surface water.

Source: 327 IAC 4-1-2(1)

3) What does "discharge of a pollutant" mean?

Answer

It means any addition of any pollutant, or combination of pollutants, into any waters of the state of Indiana from a point source in Indiana. The term includes, without limitation, additions of pollutants into waters of the state from the following:

(a) Surface run-off that is collected or channeled by man.
(b) Discharges through pipes, sewers, or other conveyances that do not lead to treatment works.

Source: 327 IAC 4-1-2(3)

4) Define an "effluent limitation"?

Answer

It is any restriction established by the commissioner on quantities, discharge rates, and concentrations of pollutants that are discharged or will be discharged from point sources into waters of the state of Indiana.

Source: 327 IAC 4-1-2(4)

5) What is the definition of a "publicly owned treatment works" or "POTW"?

Answer

It is a treatment works (as defined by Section 212(2) of the CWA) that is owned by the state or a municipality (as defined by Section 502(4) of the CWA). Except that, it does not include any devices, pipes, sewers, or other conveyances not connected to a facility providing treatment. The definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or compatible industrial wastes. "POTW" also means the municipality (as defined by Section 502(4) of the CWA) including, without limitation, a city, town, county, or other public body created pursuant to state law, that has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Source: 327 IAC 4-1-2(11)

6) What is a "sanitary sewer"?

Answer

It is a sewer that conveys liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions; and to which storm, surface, and ground waters are not intentionally allowed to enter.

Source: 327 IAC 4-1-2(12)

7) What are "semipublic facilities"?

Answer

They are treatment works as defined by Section 212(2) (33 U.S.C. 1292(2)) of the CWA, 33 U.S.C. 1251, et seq., in effect on November 13, 1991.

(a) That are not:
  (1) POTWs;
  (2) State or federally owned; OR
  (3) Industrial wastewater treatment plants as defined by 327 IAC 8-12-2(b).

(b) Semipublic facilities include, but are not limited to, the following:
  (1) Trailer or mobile home parks;
  (2) Commercial or shopping centers;
  (3) Housing developments;
  (4) Truck stops;
  (5) Restaurants;
  (6) Schools;
  (7) Campgrounds.

Source: 327 IAC 4-1-2(13)

8) What is the definition of a "sewer"?

Answer

It is a pipe or conduit that carries wastewater or drainage water.

Source: 327 IAC 4-1-2(14)

9) Define a "water pollution treatment/control facility"

Answer

It is any equipment, device, unit, structure, etc., that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of the state of Indiana, including surface and subsurface waters and public or private sewerage systems. The term includes, but is not limited to, the following:

(a) Treatment facilities.
(b) Combined sewers.
(c) Sanitary sewers.
(d) Lift (pumping) stations.

Source: 327 IAC 4-1-2(17)

10) What is the definition of "waters of the state of Indiana" or "waters of the state"?

Answer

The two terms are interchangeable for the following definition. They mean such accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof, that are wholly or partially within, flow through, or border upon this state. The terms do not include any private pond or any off-stream pond, reservoir, or facility built for reduction or control of pollution or cooling of water prior to the discharge unless the discharge causes or threatens to cause water pollution.

Source: 327 IAC 4-1-2(18)

11) When may the commissioner impose a sewer connection ban?

Answer

(a) The commissioner may impose a ban on further sewer connections to the semipublic facility or POTW whenever:
  (1) Hydraulic or organic overloading of a semipublic facility or POTW exists or is impending; AND
  (2) The introduction into the semipublic facility or POTW of additional wastewater from new or existing sources is likely to result in the discharge or bypassing of insufficiently treated sewage.

Source: 327 IAC 4-1-4

12) Whenever a semipublic facility or POTW has reached or is approaching _____ of its hydraulic or organic capacity it may be necessary to impose a sewer connection ban if action is not taken by the semipublic facility or POTW to accommodate additional flow or loading.

Answer

Ninety percent (90%). Source: 327 IAC 4-1-3

13) What are the requirements when the commissioner notifies a semipublic or POTW that it may be necessary to impose a sewer ban (early warning system) or imposes a sewer ban?

Answer

(a) Notification shall occur by certified mail, return receipt requested; AND
(b) Shall be directed to the principal executive officer, ranking elected official, and/or the authorized agent of the semipublic facility or POTW.

Source: 327 IAC 4-1-3&5

14) What are the minimum requirements for a request for waiver of a sewer ban?

Answer

It should contain, at a minimum, the projected flow and pollutant loadings from the proposed connection(s) and the projected impact upon the semipublic facility or POTW.

Source: 327 IAC 4-1-6(b)

15) A sewer ban waiver for connections from new or existing sources to a semipublic facility or a POTW may be issued under what conditions?

Answer

(a) The connection will eliminate an existing health hazard and the resulting public health benefit is considered to outweigh the adverse impact of any reduction in the effluent quality from the semipublic or POTW.
(b) A semipublic facility or POTW expansion project is under construction and will be completed in such time as to accommodate such new conditions.
(c) An equivalent amount of infiltration or wastewater is removed from the sewage system, thus assuring that the additional wastewater will receive treatment.
(d) The commissioner is assured that additional water pollution treatment/control facilities (such as chemical feed equipment) will be provided such that the effluent from the semipublic or POTW will not deteriorate beyond its present quality.
(e) Other assurances are provided that the additional sewage to be discharged into the semipublic facility or POTW shall receive adequate treatment.

Source: 327 IAC 4-1-3&5

16) Under what conditions may the commissioner terminate a sewer connection ban?

Answer

When either of the following exists:
a) A demonstrated sewage treatment facility improvement to meet applicable NPDES permit limitations has been completed; OR
b) It is demonstrated to the satisfaction of the commissioner that an existing hydraulic/organic condition has been or will be discontinued for a continuous period of twelve (12) months from the date additional connections will be made.

Source: 327 IAC 4-1-7

17) What type of connection is excluded from a sewer ban?

Answer

(a) Single-family dwellings built on vacant lots served by an existing sanitary sewer.
(b) Projects that possess a valid construction permit issued under 327 IAC 3-2 prior to the imposition of a sewer connection ban.

Source: 327 IAC 4-1-8

18) May a semipublic facility or POTW aggrieved by the imposition of a ban, denial of a sewer ban waiver, or denial of a request to terminate the ban appeal to the board for a hearing?

Answer

Yes – all hearings shall be held in accordance with IC 4-21.5.

Source: 327 IAC 4-1-9

19) The commissioner, or the commissioner's authorized representative, upon presentation of proper credentials:

Answer

(a) Shall have a right of entry to, upon, or through any premises public or private, which records, reports, monitoring equipment or methods, samples, or other information required to be maintained or provided under 327 IAC 4-1-11(a) are located;
(b) May, at reasonable times have access to AND:
  (1) Copy any records;
  (2) Inspect any equipment or method; OR
  (3) Sample any effluent or other material required under 327 IAC 4-1-11(a).

Source: 327 IAC 4-1-11(b)

327 IAC ARTICLE 5. Industrial Wastewater Treatment Programs and NPDES

1) "Best Management Practices", or "BMPs", means the following measures to prevent or reduce the pollution of waters of the state:

Answer

(a) Schedules of activities.
(b) Prohibitions of practice.
(c) Treatment requirements.
(d) Operation and maintenance procedures.
(e) Use of containment facilities.
(f) Other management practices.

Source: 327 IAC 5-1.5-6(a)

2) BMPs may be employed to control what types of pollution?

Answer

(a) Plant site run-off;
(b) Spillage or leaks;
(c) Sludge or waste disposal; OR
(d) Drainage from raw materials storage resulting from manufacturing, commercial, mining or silvicultural activities.

Source: 327 IAC 5-1.5-6(b)

3) What are "nonpoint source discharges"?

Answer

Nonpoint sources include any discharge of a pollutant that is not a point source, such as the following:
(a) In-place contaminants.
(b) Direct wet and dry deposition.
(c) Ground water inflow.
(d) Overland run-off.

Source: 327 IAC 5-1.5-28

4) What does "NPDES" stand for?

Answer

National Pollutant Discharge Elimination System

Source: 327 IAC 5-1.5-34

5) What is a "point source discharge"?

Answer

"Point source discharge" means any discernible, confined, and discrete conveyance, including, but not limited to, any of the following from which pollutants are or may be discharged:

(a) Pipe.
(b) Ditch.
(c) Channel.
(d) Tunnel.
(e) Conduit.
(f) Well.
(g) Discrete fissure.
(h) Container.
(i) Rolling stock.
(j) Concentrated animal feeding operation.
(k) Landfill leachate collection system.
(l) Vessel.
(m) Other floating craft.

(The term does not include return flows from irrigated agriculture or agricultural storm run-off.)

Source: 327 IAC 5-1.5-40

6) What does "population equivalent" or "PE" mean?

Answer

"Population equivalent" or "PE" mean means the calculated population that would contribute a particular amount of biochemical oxygen demand (BOD) per day, using the base of seventeen-hundredths (0.17) pound of five (5) day BOD per capita per day. A different conversion factor may be used in the calculation when approved by the commissioner on the basis of site-specific technical information.

Source: 327 IAC 5-1.5-42

7) Define "design population equivalent".

Answer

"Design population equivalent" means the PE for which the plant is designed.

Source: 327 IAC 5-22-3(8)

8) What is "process wastewater"?

Answer

"Process wastewater is any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Source: 327 IAC 5-1.5-46

9) Define "publicly owned treatment works" or "POTW":

Answer

It is a treatment works (as defined by Section 212(2) of the Clean Water Act) owned by the state or a municipality (as defined by Section 502(4) of the Clean Water Act). Except that, it does not include pipes, sewers, or other conveyances not connected to a facility providing treatment. The term includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or compatible industrial wastes. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant. The term also means the municipality (as defined by Section 502(4) of the Clean Water Act) that has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Source: 327 IAC 5-1.5-48

10) What is a "schedule of compliance"?

Answer

It is a schedule of remedial measures, including an enforceable sequence of actions or operations, including construction, leading to compliance with an effluent limitation, other limitation, prohibition, standard, or another permit condition. Source: 327 IAC 5-1.5-55

11) Define "total maximum daily load" or "TMDL":

Answer

"TMDL" is the sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources and natural background minus the sum of a specified margin of safety and any capacity reserved for growth. If a receiving water has only one (1) point source discharger, the TMDL is the sum of that point source WLA (waste load allocation) plus the LAs (load allocation) for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments minus the sum of a specified margin of safety and any capacity reserved for growth. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If best management practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations may be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into a waterbody and still assure attainment and maintenance of water quality standards.

Source: 327 IAC 5-1.5-66

12) What is a "water pollution treatment or control facility"?

Answer

It is any equipment, device, unit, or structure that is used to control, prevent, pretreat, or treat any discharge or threatened discharge of pollutants into any waters of Indiana, including surface and subsurface waters and public or private sewerage systems. The term includes, but is not limited to, the following:

(a) Treatment facilities.
(b) Combined sewers.
(c) Sanitary sewers.
(d) Disposal well systems.
(e) Animal feeding operation treatment facilities.
(f) Land application treatment facilities.
(g) Cyanide isolation facilities.

Source: 327 IAC 5-1.5-71

13) Who is required to have an NPDES permit?

Answer

Any discharge of pollutants into waters of the state as a point source discharge, except for exclusions made in 327 IAC 5-2-4, is prohibited unless in conformity with a valid NPDES permit obtained prior to the discharge. (Note: Discharges exempted from requiring an NPDES permit may be subject to permits or approvals under other laws.)

Source: 327 IAC 5-2-2

14) Which POTWs are required to provide the results of valid whole effluent biological toxicity testing to the commissioner?

Answer

(a) All POTWs with design influent flows equal to or greater than one million (1,000,000) gallons per day.
(b) All POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program.

In addition to the POTWs listed in the subsection above, the commissioner may require other POTWs to submit the results of toxicity tests with their permit applications, based on consideration of the following factors:

(a) The variability of the pollutants or pollutant parameters in the POTW effluent (based on chemical-specific information, the type of industrial contributors).
(b) The dilution of the effluent in the receiving water (ratio of effluent flow to receiving stream flow).
(c) Existing controls on point or nonpoint sources, including total maximum daily load calculations for the waterbody segment and the relative contribution of the POTW.
(d) Receiving stream characteristics, including possible or known water quality impairment, and whether the POTW discharges to one (1) of the Great Lakes, or a water designated as an outstanding natural resource.
(e) Other considerations (including, but not limited to, the history of toxic impact and compliance problems at the POTW), which the commissioner determines could cause or contribute to adverse water quality impacts.

Source: 327 IAC 5-2-3(g) & (h)

15) Who is responsible for submitting an application for an NPDES permit?

Answer

The owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining a permit, except where the facility or operation is operated by a person other than an employee of the owner. In which case, it is the operator's duty to apply for and obtain a permit.

Source: 327 IAC 5-2-3(c)

16) What are some of the items included in an NPDES permit?

Answer

(a) Name and location of permittee.
(b) Issuance, effective and expiration dates.
(c) Facility description.
(d) Effluent limitations.
(e) Monitoring requirements.
(f) Management requirements.
(g) Permittee's responsibilities.

Source: 327 IAC 5-2-3

17) What is the maximum term of a NPDES permit?

Answer

A permit shall be issued for a fixed term not to exceed five (5) years. Permits of less than five (5) years duration may be issued in appropriate circumstances at the discretion of the commissioner. A permit may be modified, revoked and reissued, or terminated prior to the expiration of the term for cause, as specified in 327 IAC 5-2-16, or in accordance with conditions set forth in the permit (as in a reopening clause). In no event may the term of a permit be extended beyond five (5) years from its original effective date by modification, extension, or other means, except as provided in 327 IAC 5-2-6(b).

Source: 327 IAC 5-2-6(a)

18) May a permit be transferred by the permittee to a new owner or operator?

Answer

A permit may be transferred to another person by a permittee, without modification or revocation and reissuance being required, if the following occurs:

(a) The current permittee notifies the commissioner at least thirty (30) days in advance of the proposed transfer date in (b).
(b) A written agreement containing a specific date for transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgement that the existing permittee is liable for violations up to that date) is submitted to the commissioner.
(c) The transferee certifies in writing to the commissioner intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under section (d) of this rule. However, the commissioner may allow a temporary transfer of the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.
(d) The commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

(Note: Modifications to a wastewater facility may require a construction permit).

Source: 327 IAC 5-2-6(c)

19) What are the rights that the commissioner, or the commissioner's representative, has to enter a facility?

Answer

The permittee shall allow the commissioner, or an authorized representative (including an authorized contractor acting as a representative of the commissioner), upon the presentation of credentials and such other documents as may be required by law:

(a) To enter upon the permittee's premises where a point source is located or where any records must be kept under the terms and conditions of the permit;
(b) To have access to and copy at reasonable times any records that must be kept under the terms and conditions of the permit;
(c) To inspect, at reasonable times:
    (1) Any monitoring equipment or method;
    (2) Any collection, treatment, pollution management, or discharge facilities;
    (3) Practices required or otherwise regulated under the permit; AND
(d) To sample or monitor, at reasonable times, any discharge of pollutants or internal wastestream (where necessary to ascertain the nature of a discharge of pollutants) for the purpose of evaluating compliance with the permit or as otherwise authorized.

Source: 327 IAC 5-2-8(7)

20) What are some NPDES permit reporting requirements?

Answer

(a) Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.
(b) The permittee shall give advance notice to the commissioner of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements.
(c) The permittee shall orally report information on any of the following types of noncompliance within twenty-four (24) hours from the time the permittee becomes aware of such noncompliance:
    (1) Any unanticipated bypass that exceeds any effluent limitation in the permit.
    (2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the commissioner in the permit to be reported within twenty-four (24) hours.
    (3) Any noncompliance that may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the non-complying circumstances to the emergency response telephone numbers specified in 327 IAC 2-6-2.
    (4) Any upset that exceeds any effluent limitation in the permit.

    A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The commissioner may waive the written report on a case-by-case basis if the oral report has been received within twenty-four (24) hours.

Source: 327 IAC 5-2-8(10)

21) What are the requirements for bypass?

Answer

(a) The following definitions apply:
    (1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.
    (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities that would cause them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
(b) The permittee may allow any bypass to occur that does not exceed any effluent limitations contained in the NPDES permit, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to clauses (c) and (d).
(c) The permittee must provide the commissioner with the following notice:
    (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the commissioner.
    (2) The permittee shall submit notice of an unanticipated bypass as required by subdivision 327 IAC 5-2-8(10)(C).
(d) The following provisions are applicable to bypasses:
    (1) Bypass is prohibited, and the commissioner may take enforcement action against a permittee for bypass unless the following occur:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment down time or preventive maintenance.
(C) The permittee submitted notices as required under clause (c).

(2) The commissioner may approve an anticipated bypass, after considering its adverse effects if the commissioner determines that the anticipated bypass will meet the three (3) conditions listed in item (i). The commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

Source: 327 IAC 5-2-8(11)

22) Might it be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit?

Answer

Yes, it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

Source: 327 IAC 5-2-8(13)

23) What are possible penalties for noncompliance with NPDES permit reporting requirements?

Answer

All applications, reports, or other information submitted to the commissioner shall be signed and certified as defined under section 327 IAC 5-2-22 of this rule. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under the NPDES permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than ten thousand dollars ($10,000) per violation, or by imprisonment for not more than one hundred eighty (180) days per violation, or by both.

Source: 327 IAC 5-2-8(14)

24) What is the "average monthly discharge"?

Answer

It is the total mass or flow-weighted concentration of all daily discharges sampled or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharge samples and/or measured during such month. The average monthly discharge limitation is the highest allowable average monthly discharge for any calendar month.

Source: 327 IAC 5-2-11(a)(1)

25) What is the "average weekly discharge"?

Answer

It is the total mass or flow-weighted concentration of all daily discharges during any calendar week on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week.

Source: 327 IAC 5-2-11(a)(2)

26) What is a "continuous discharge"?

Answer

It is a discharge that occurs without interruption, except for infrequent shutdowns for maintenance, process changes, or other similar activities, throughout the operating hours of the facility.

Source: 327 IAC 5-2-11(a)(3)

27) What is a "daily discharge"?

Answer

It is the total mass of a pollutant discharged during the calendar day. Or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four (24) hour period that reasonably represents the calendar day for the purposes of sampling. The maximum daily discharge limitation is the maximum allowable daily discharge for any calendar day.

Source: 327 IAC 5-2-11(a)(4)

28) How shall the average of discharge data be determined?

Answer

(a) For fecal coliform, the average monthly discharge and average weekly discharge, as concentrations, shall be calculated using a geometric mean.

(b) For E. coli, the average monthly discharge, as a concentration, shall be calculated using a geometric mean.

(c) For all other parameters, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified or approved by the commissioner.

Source: 327 IAC 5-2-11(a)(5)

29) Given the following monthly BOD monitoring data, what number should be reported in the space marked the "maximum weekly average BOD concentration" on the DMR?

Sampling is required twice a week.

Week	Sample Results	Weekly Avg
1	10	
	18	14
2	10	
	20	15
3	10	
	22	16
4	10	
	20	15

Answer: 16

30) Given the following data for monitoring the concentration of TSS, how many exceedances ("NO. EX.") should be recorded in the DMR?

Limits are 20 mg/L Monthly Average and 30 mg/L Weekly Average.
Sampling is required twice a week.
Assume only four weeks in the month.

Week	Sample Results mg/L	Weekly Average. mg/L
1	20	
	30	25
2	20	
	50	35
3	50	
	30	40
4	30	
	68	49

Monthly Average: 32

Answer: 4

31) What are some of the requirements for production-based limitations?

Answer

(a) For dischargers other than POTWs, permit effluent limitations which are based on production rates (or another measure of operation) shall be calculated on the basis of a reasonable measure of the actual production of the facility.
(b) A discharger whose permit limitations are determined through a waste load allocation procedure to maintain water quality above applicable standards may request the commissioner to calculate the discharger's load allocation, relative to the load allocations of other dischargers, on the basis of the design production capacity of the discharger's facility.
(c) In the case of POTW's, permit limitations shall be calculated based on design flow unless good cause exists for utilizing a different basis.
(d) For continuous dischargers, all interim and final permit effluent limitations, including those necessary to achieve water quality standards, shall be stated, unless impracticable, as maximum daily and average monthly discharge limitations for all dischargers. Except that, for POTWs average weekly and average monthly discharge limitations shall be used for BOD5, TSS, and ammonia nitrogen. For discharges within the Great Lakes system, limitations for ammonia shall be stated as maximum daily and average monthly discharge limitations for all dischargers.

Source: 327 IAC 5-2-11(c)

32) Have different water quality-based effluent limitations (WQBELs) been established for Great Lakes dischargers and those not discharging to the Great Lakes?

Answer

Yes, water quality-based effluent limitations for dischargers not discharging to waters within the Great Lakes system and Great Lakes dischargers may differ and can be found in 327 IAC 5-2-11 and 12.

Source: 327 IAC 5-2-11 & 12

33) To assure compliance with permit terms and conditions, what are some of the monitoring requirements for all permittees, as required by their permit?

Answer

(a) The mass, concentration, or other measurement specified in 327 IAC 5-2-11,11.1, and 11.6 for each pollutant specified in the permit.
(b) The volume of wastewater flow at monitoring points specified in the permit, including the final effluent flow from each point source.
(c) Other parameters and conditions as specifically required in the permit.
(d) A POTW shall monitor the mass, concentration, or other units of specified pollutants in the raw influent, in the discharge from intermediate unit treatment processes as specified in the permit or the applicable report of operation form, and in the final effluent, and the volume of effluent flow.

Source: 327 IAC 5-2-13(a)

34) Any permittee, who is required to monitor under 327 IAC 5-2-13, shall maintain what records?

Answer

The permittee must maintain all monitoring information and monitoring activity records including:
(a) The date, exact place and time of sampling or measurements;
(b) The person(s) who performed the sampling or measurements;
(c) The dates(s) analyses were performed;
(d) The person(s) who performed the analyses;
(e) The analytical techniques or methods used; AND
(f) The results of such measurements and analyses.

Source: 327 IAC 5-2-14(a)

35) How long must all records of monitoring activities and results be maintained?

Answer

All records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records) shall be retained by the permittee for three (3) years. The three-year period shall be extended:

(a) Automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; OR
(b) As requested by the commissioner.

Source: 327 IAC 5-2-14(b)

36) What are some of the reporting requirements for the discharge monitoring report (DMR)?

Answer

Permittees shall report to the commissioner, using discharge monitoring reports (DMR) (EPA Form 3320-1). And in the case of POTWs, semipublic, state, and federal facilities' reports of operation, the results of any monitoring specified by the permit, pursuant to 327 IAC 5-2-13 of this rule, as often as required by the permit, but in no case less than once per year. POTWs with pretreatment or hybrid pretreatment requirements in their NPDES permits as well as industrial dischargers shall also submit the results of effluent analysis on the Indiana Discharge Monitoring Report Form 30530.

Source: 327 IAC 5-2-15(a)

37) Does a certified operator have to prepare or direct the preparation of reports?

Answer

Yes, all reports required by 327 IAC 5-2-15 shall be prepared by or under the direction of a certified wastewater treatment plant operator licensed under the provisions of 327 IAC 5-22 when such reports concern a discharge originating in whole or in part from a wastewater treatment plant or a water treatment plant, respectively, as defined in IC 13-11-2.

Source: 327 IAC 5-2-15(c)

38) What NPDES information does the public have access to?

Answer

(a) All:
    (1) Permit applications;
    (2) Effluent data;
    (3) Certifications issued under section 401 of the CWA;
    (4) Public comments (including comments of all governmental agencies) submitted under 327 IAC 5-3-9 on a draft permit;
    (5) General correspondence;
    (6) Permits (drafts and final);
    (7) Statements of basis (briefing memos); AND
    (8) Fact sheets;

    Shall be available to the public for inspection and copying at a reasonable charge without restriction.
(b) Public access to other information submitted to the commissioner under the NPDES program, under a claim of confidentiality, shall be governed by 327 IAC 12.1.

Source: 327 IAC 5-2-18

39) Indiana Code 13 provides for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation of Indiana's environmental laws or regulations. Who is subject to this penalty?

Answer

Any person causing or contributing to said violation.

Source: 327 IAC 5-2-20

40) A violation subject to enforcement includes, but is not limited to:

Answer

(a) The discharge of pollutants without an NPDES permit or in violation of any effluent limitation in an NPDES permit;
(b) The violation of any other term or condition of an NPDES permit;
(c) Failure to comply with NPDES application requirements under 327 IAC 5-3 or 327 IAC 5-2-3; OR

(d) Failure to allow entry, inspection, and monitoring by the commissioner when requested in accordance with applicable law or to carry out monitoring, recording, and reporting required under 327 IAC 5.

Source: 327 IAC 5-2-20

41) What are the requirements for signing permit applications?

Answer

(a) All permit applications shall be signed as follows:
  (1) The following for a corporation by a responsible corporate officer:
    (A) For purposes of this section, a "responsible corporate officer" means either of the following:
      (i) A president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation.
      (ii) The manager of one (1) or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
    (B) For purposes of this section, a principal executive officer of a federal agency includes the following:
      (i) The chief executive officer of the agency.
      (ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
  (2) For a partnership or sole proprietorship by a general partner or the proprietor, respectively.
  (3) For a municipality, state, federal, or other public agency or political subdivision thereof by either a principal executive officer or ranking elected official.
(b) All reports required by permits and other information requested by the commissioner shall be signed by a person described in subsection (a), or by a duly authorized representative of that person. A person is a duly authorized representative only if the authorization meets the following requirements:
  (1) The authorization is made in writing by a person described in subsection (a).
  (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.).
  (3) The written authorization is submitted to the commissioner.
(c) If an authorization under subsection (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection (b) must be submitted to the commissioner prior to or together with any reports, information, or applications to be signed by an authorized representative.

Source: 327 IAC 5-2-22(a), (b) & (c)

42) How must any person signing a document under 327 IAC 5-2-22(a) or (b) certify the document?

Answer

They shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Source: 327 IAC 5-2-22(d)

43) The existing NPDES permit will expire soon. When should the permittee submit a new application for an NPDES permit?

Answer

An NPDES permit application must be submitted at least one hundred eighty days (180) prior to the expiration date of the existing permit, unless the commissioner allows a later date.

Source: 327 IAC 5-3-2(a)(2)

44) What is the public comment period for a draft NPDES permit?

Answer

(a) A comment period of at least thirty (30) days following the date of public notice of the formulation of a draft permit shall be provided. During this period any interested persons may submit written comments on the draft permit and request a public hearing in accordance with 327 IAC 5-3-9(b). All comments, including those submitted in public hearing, shall be considered by the commissioner in preparing the final permit and shall be responded to as provided in 327 IAC 5-3-15.

(b) If any information or arguments submitted during the public comment period appears to raise substantial new questions concerning a permit, the commissioner may conclude that one or more of the following actions is necessary for an informed decision:
   (1) Formulation of a new draft permit, appropriately modified;
   (2) Preparation of a fact sheet or revised fact sheet and reopening of the comment period under 327 IAC 5-3-9; OR
   (3) Reopening or extending the comment period to give interested persons an opportunity to comment on the information or arguments submitted. In each case the notice required by 327 IAC 5-3-12 shall be given.

Source: 327 IAC 5-3-9&11

45) If you disagree with an action the agency takes, is there anything you can do?

Answer

Yes, any person aggrieved by a final agency action on an adjudicatory hearing or affirming the denial of a request for adjudicatory hearing may seek judicial review of said action pursuant to the provisions of IC 4-21.5-5.

(Note: There are strict time limitations.)

Source: 327 IAC 5-3-16

46) Are concentrated animal feeding operations required to obtain an NPDES permit?

Answer

Yes, they are point source discharges subject to the NPDES permit program.

Source: 327 IAC 5-4-3(a)

47) What is an "animal feeding operation"

Answer

It is a lot or facility where the following conditions are met:

(a) Animals (other than aquatic animals) have been, or will be, stabled or confined and fed or maintained for a total of forty-five (45) days or more in any 12-month period; AND

(b) Crops, vegetation, forage growth or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Two (2) or more animal feeding operations under common ownership are considered, for the purposes of 327 IAC 5 to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

Source: 327 IAC 5-4-3(b)(1)

48) What factors does the commissioner consider when determining if an animal feeding operation is designated as a concentrated animal feeding operation where it is determined to be a significant contributor of pollution to the waters of the state?

Answer

(a) The size of the animal feeding operation and the amount of wastes reaching waters of the state;

(b) The location of the animal feeding operation relative to waters of the state;

(c) The means of conveyance of animal wastes and process wastewaters into waters of the state;

(d) The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge or animal wastes and process wastewaters into waters of the state; AND,

(e) Other factors relevant to the significance of the pollution problem under consideration.

Source: 327 IAC 5-4-3(c)

49) What storm water discharges are subject to the NDPES program?

Answer

(a) The following discharges consisting entirely of storm water are subject to the NPDES program:
  (1) A discharge with respect to which a permit has been issued prior to February 4, 1987.
  (2) A discharge that the commissioner determines contributes to a violation of a water quality standard or a significant contributor of pollutants to waters of the state.

(b) Prior to October 1, 1992, a permit shall not be required for a discharge composed entirely of storm water, except the following:
  (1) A discharge with respect to which a permit has been issued prior to February 4, 1987.
  (2) A discharge associated with industrial activity.
  (3) A discharge from a large municipal separate storm sewer system serving a population of two hundred fifty thousand (250,000) or more.
  (4) A discharge from a medium municipal separate storm sewer system serving a population of one hundred thousand (100,000) or more but less than two hundred fifty thousand (250,000).
  (5) A discharge that the commissioner determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the state.

Source: 327 IAC 5-4-6(a)&(b)

50) What are technology-based treatment requirements?

Answer

They are requirements under sections 301 (b) and 306 of the CWA and represent the minimum level of control that must be imposed in an NPDES permit issued under section 402 of the CWA for an existing source and a new source, respectively.

Source: 327 IAC 5-5-2(a)

51) For the purpose of alternative thermal effluent limitations, a "representative important species" is:

Answer

It is a species that is representative, in terms of its biological needs, of a balanced, indigenous community of shellfish, fish and wildlife in the body of water into which a discharge of heat is made.

Source: 327 IAC 5-7-2

52) Who do Best Management Practices (BMPs) apply to?

Answer

Dischargers who use, manufacture, store, handle, or discharge any pollutant listed as toxic under section 307(a)(1) of the CWA, any pollutant listed as hazardous under section 311 of the CWA, or on a case-by-case basis, other materials that may cause pollution if they are discharged are subject to the requirements of this rule for all activities that may result in significant amounts of those pollutants reaching waters of the state. These activities are ancillary manufacturing operations including the following:

(a) Materials storage areas.
(b) In-plant transfer.
(c) Process and material handling areas.
(d) Loading and unloading operations.
(e) Plant site runoff.
(f) Sludge and waste disposal areas.

Source: 327 IAC 5-9-2(a)

53) Define "manufacture" as it applies to Best Management Practices (BMPs).

Answer

It means to produce as an intermediate or final product or byproduct.

Source: 327 IAC 5-9-2(b)

54) Other requirements of a BMP (Best Management Practices) program include:

Answer

(a) It may reflect requirements for Spill Prevention Control Countermeasure (SPCC) plans under section 311 of the CWA and may incorporate any part of such plans into the BMP program by reference;
(b) Shall assure the proper management of solid and hazardous waste in accordance with regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) (40 U.S.C. 6901 et seq.). Management practices required under RCRA regulations shall be expressly incorporated into the BMP program; AND,
(c) Shall address the following points for the ancillary activities:
    (1) Statement of policy.
    (2) Spill control committee.
    (3) Material inventory.
    (4) Material compatibility.
    (5) Employee training.
    (6) Reporting and notification procedures.
    (7) Visual inspections.
    (8) Preventive maintenance.
    (9) Housekeeping.
    (10) Security.

Source: 327 IAC 5-9-2(e)

55) When are phosphorus removal or control facilities required for a point source discharge?

Answer

(a) The daily discharge, as a monthly average, contains ten (10) pounds or more of total phosphorus (calculated as elemental phosphorus – "P") AND
(b) The discharge is located within the Lake Michigan or Lake Erie Basins; OR
(c) The discharge directly enters a lake or reservoir or enters a tributary within forty (40) miles upstream of a lake or reservoir.

Source: 327 IAC 5-10-2(a)

56) When is disinfection required?

Answer

(a) Disinfection is required of all sanitary discharges for the annual period of April 1 through October 31 except multicelled waste stabilization ponds that are adequately designed and operated and are not either hydraulically or organically overloaded and as provided in 327 IAC 5-10-3(b) & 4(d).
(b) Disinfection is not required and is not expected to be practiced during the annual period of November 1 through March 31, except as necessary to comply with ORSANCO requirements (for discharges directly into the Ohio River). In cases where chlorination must be practiced during this period (such as to maintain sand filters), the maximum effluent limitation for chlorine and monitoring requirements for such remain in effect.

Source: 327 IAC 5-10-6(a) & (b)

57) What are the requirements for facilities using chlorine or other halogenated compounds as a disinfectant?

Answer

(a) For those sanitary dischargers designated as minor facilities (generally those with a population equivalent (PE) of less than ten thousand (10,000)), the residual chlorine concentration after disinfection (but prior to dechlorination) is to be maintained at a minimum of five-tenths (0.5) milligram per liter.
(b) For those sanitary dischargers designated as major facilities (those with a PE of ten thousand (10,000) or greater), no minimum residual chlorine limitation is applied, so long as the final effluent complies with bacteriological standards based on 327 IAC 2-1-6 or 327 IAC 2-1.5-8.
(c) For all sanitary discharges using chlorine or bromine compounds as a disinfectant or for filter or other equipment maintenance at any time, dechlorination is to be practiced such that the concentration of total residual chlorine (TRC), or where bromine is used TRO, in the final effluent does not exceed water quality-based effluent limitations. If these water quality-based limitations are below the LOQ,

compliance with such limitations will be determined using the applicable procedures contained under 327 IAC 5-2-11.1 or 327 IAC 5-2-11.6.

Source: 327 IAC 5-10-6(c)

58) If a facility uses a disinfectant other than chlorine or other halogen compounds, what are the E. coli requirements?

Answer

Facilities using a disinfectant other than chlorine or other halogen compounds may not contain E. coli in excess of one hundred twenty-five (125) per one hundred (100) milliliters as a geometric mean or two hundred thirty-five (235) per one hundred (100) milliliters maximum during the disinfection season.

Source: 327 IAC 5-10-6(d)

59) When may the commissioner order facilities to connect to and/or receive and treat sewage?

Answer

(a) If the commissioner finds it is in the interest of the health, safety, convenience, and welfare of the residents of any area, any person, publicly or semipublicly owned sewage treatment systems may be ordered to connect to and/or receive and treat sewage from any other person or from an industry, shopping center, mobile home park, school, or housing development when such service and use will not result in irreparable injury to the receiving equipment or make impossible the rendering of the service previously rendered to the users of such equipment. The persons involved shall negotiate the terms for such connection and service, in accordance with the terms of IC 13-7-15-1.

(b) Any new school, mobile home park, motel, motor court, or motor hotel shall dispose of sewage through the use of a public sewerage system if the sewerage system is available within a reasonable distance from the facility.

(c) Any existing school, mobile home park, motel, motor court, or motor hotel with a direct discharge of sewage, as authorized by an NPDES permit shall connect to a public sewerage system, discontinue the direct discharge, and abandon their wastewater treatment plant if a public sewerage system becomes available at any time within a reasonable distance from the facility. In this instance, "reasonable distance" is related to cost. The intent of this provision is to encourage the entities mentioned in this section to compare the cost of connecting to a sewerage system against the cost to build or upgrade and operate a sewage treatment plant.

Source: 327 IAC 5-10-7(a), (b) & (c)

327 IAC ARTICLE 5. Rules 16 through 21. State Pretreatment Program

1) The pretreatment rules establish a state program to control the discharge of industrial pollutants into publicly owned treatment works (POTWs). What are the objectives of the state pretreatment program?

Answer

(a) To prevent the introduction of pollutants into a POTW that will interfere with the operation of a POTW, including interference with the use or disposal of municipal sludge.

(b) To prevent the introduction of pollutants into a POTW that will pass through the treatment works without receiving effective treatment or otherwise be incompatible with such works.

(c) To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

Source: 327 IAC 5-16-1(b)

2) Who does the pretreatment rule apply to?

Answer

(a) New or existing industries that discharge by direct connection or indirectly by truck, rail, or other means, non-domestic wastes into POTWs; and

(b) POTWs that receive or may receive discharges of non-domestic wastes from those industries.

Source: 327 IAC 5-16-1(c)

3) What information is available for public inspection and copying without restriction during normal hours of operation? (A copy fee may be assessed in accordance with the uniform copying fee authorized under IC 5-14-3-8(c))

Answer

(a) Applications for IWP permits.
(b) Permits (draft and final).
(c) Statements of basis.
(d) Effluent data from industrial users.
(e) Submissions from POTWs transmitted to the department under this article.
(f) Public comments on requests for POTW pretreatment program approval or for authority to revise discharge limits for pollutants consistently removed by the POTW.
(g) Public access to other information, including information submitted to the department under claim of confidentiality, shall be governed by 327 IAC 12.1.

Source: 327 IAC 5-16-3

4) A violation of pretreatment rules may:

Answer

(a) Subject a person causing or contributing to the violation to administrative or judicial enforcement proceedings, under IC 13-30-3, and the penalties provided under IC 13-30-4;
(b) Be cause for modification; revocation and reissuance; or termination of an industrial waste pretreatment permit or an NPDES permit; AND
(c) Warrant the invocation of emergency procedures under IC 13-14-10.

Source: 327 IAC 5-16-4(a)

5) Is the operator required to allow representatives of the commissioner:
(a) Entry, inspection, and monitoring by representatives of the commissioner when requested in accordance with applicable law; or
(b) To carry out monitoring, recording, and reporting required under 327 IAC 5-16-4?

Answer

Yes, failure to allow the above access to representatives of the commissioner constitutes a violation of the pretreatment permit.

Source: 327 IAC 5-16-4(d)

6) All POTWs and industrial users shall comply with the applicable reporting requirements of 40 CFR 403.12 and 327 IAC 5-21-10. Additionally, reporting of spills into a POTW or of upsets in pretreatment facilities may be required of an industrial user by its control authority. Reports must be signed by?

Answer

(a) A responsible corporate officer (as defined by 327 IAC 5-16-5(b)(1)).
(b) A general partner or proprietor or manager if the industrial user submitting the reports is a partnership or sole proprietorship, respectively.
(c) A duly authorized representative of the individual designated in either subdivision (a) or (b) above if:
  (1) The authorization is made in writing by the individual described in either subdivision (a) or (b) above;
  (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the industrial discharge originates, such as the position of plant manager, operator of a well, or well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; AND
  (3) The written authorization is submitted to the control authority.

Source: 327 IAC 5-16-5(a)&(b)

7) What type of access to records must an industrial user allow and how long must that industrial user maintain the records required under 327 IAC 5-16-5(c)?

Answer

These records must be made available for inspection and copying, upon request, to the commissioner, the regional administrator, and the POTW to which the industrial user discharges its wastewater for three years.

The period of retention may be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user, the operation of the approved POTW pretreatment, or when requested by the commissioner or the regional administrator. Records of monitoring activities must also be maintained (in accordance with 327 IAC 5-2-14)

Source: 327 IAC 5-16-5(c) &(d)

8) Reports that relate to the actual operation of or discharge from a pretreatment facility must be prepared by or under the direction of _____ ?

Answer

A wastewater treatment plant operator certified under IC 13-18-11.

Source: 327 IAC 5-16-5-(e)

9) Who must sign reports required by a POTW?

Answer

A responsible corporate officer, ranking elected official, or other duly authorized employee must sign these reports (if that employee is responsible for the overall operation of the POTW). A copy of the written authorization designating the employee must be submitted to the commissioner.

Source: 327 IAC 5-16-5(f)

10) As used in 327 IAC 5-16-6, an "upset" means an exceptional incident in which there is unintentional and temporary noncompliance with any pretreatment standards or requirements in 327 IAC 5-2 because of factors beyond the reasonable control of the industrial user. What does NOT constitute an upset?

Answer

(a) Noncompliance to the extent caused by operational error;
(b) Improperly designed treatment facilities;
(c) Inadequate treatment facilities;
(d) Lack of preventive maintenance; OR
(e) Careless or improper operation.

Source: 327 IAC 5-16-6(a)

11) A "bypass" means the intentional diversion of waste streams from any portion of an industrial user's treatment facility. When may an industrial user allow a bypass to occur?

Answer

(a) When it does not cause a violation of any pretreatment standard or requirement under 327 IAC 5-2; AND
(b) When it is for essential maintenance to assure efficient operation.

Source: 327 IAC 5-16-7 (a)&(b)

12) What are "categorical pretreatment standards"?

Answer

They are national pretreatment standards, specifying quantities or concentrations of pollutants or pollutant properties that may be discharged or introduced to a POTW by an existing or new industrial user in a specific industrial subcategory, that are established by EPA.

Source: 327 IAC 5-17-3

13) What does "control authority" mean?

Answer

The commissioner or, in the case of a POTW with an approved POTW pretreatment program, the POTW.

Source: 327 IAC 5-17-5

14) What is a "four (4) day average discharge"?

Answer

The calculated result of totaling the mass or average concentration of all daily discharges sampled or measured during four (4) consecutive sampling days, though not necessarily consecutive calendar days, divided by the number of daily discharges sampled or measured.

Source: 327 IAC 5-17-8

15) What is “interference”?

Answer

It is a discharge that, alone or in conjunction with a discharge or discharges from other sources, does ONE (1) of the following:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, its sludge processes, or its selected sludge use or disposal methods.

(b) Causes a violation of any requirement of the POTW=s NPDES permit, including an increase in the magnitude or duration of a violation.

(c) Prevents the use of the POTW=s sewage sludge or its sludge disposal method selected in compliance with the following statutory provisions, regulations, or permits issued thereunder or more stringent state or local regulations:

(1) Section 405 of the Clean Water Act (33 U.S.C. 1345).

(2) The Solid Waste Disposal Act (SWDA) (42 U.S.C. 6901), including:

(A) Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA); and

(B) The rules contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA (42 U.S.C. 6941).

(3) The Clean Air Act (42 U.S.C. 7401).

(4) The Toxic Substances Control Act (15 U.S.C. 2601).

Source: 327 IAC 5-17-11

16) What is a “national pretreatment standard”?

Answer

Any regulation that applies to industrial users and contains pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and 307(c) of the federal Clean Water Act (33 U.S.C. 1317(b) and 33 U.S.C. 1317(c)).

Source: 327 IAC 5-17-12

17) What do “pretreatment standards” include?

Answer

(a) State pretreatment standards;

(b) Pretreatment standards for prohibited discharges; AND

(c) National categorical pretreatment standards.

Source: 327 IAC 5-17-21

18) “Overflow” is defined as:

Answer

The intentional or unintentional diversion of wastewater flow from the POTW prior to the wastewater entering the POTW treatment plant.

Source: 327 IAC 5-17-14

19) “Pass through” is defined as:

Answer

A discharge proceeding through a POTW into waters of the state in quantities or concentration that, alone or in conjunction with a discharge or discharges from other sources, are a cause of a violation of any requirement of the POTW’s NPDES permit, including an increase in the magnitude or duration of a violation.

Source: 327 IAC 5-17-15

20) What is a “significant industrial user” or “SIU”?

Answer

(a) Industrial users subject to categorical pretreatment standards under 327 IAC 5-18-10.

(b) An industrial user that:

(1) Discharges an average of twenty-five thousand (25,000) gallons per day or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) to the POTW;

(2) Contributes a process wastestream that makes up five percent (5%) or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; OR
(3) Is designated as a significant industrial user by the control authority on the basis that the industrial user has a reasonable potential to:
(A) Adversely affect the POTW=s operation;
(B) Violate a pretreatment standard; or
(C) Violate a requirement of 327 IAC 5-19-3.
(Except, a control authority may, on its own initiative or in response to a petition received from an industrial user or a POTW and in accordance with 327 IAC 5-19-3(6), determine that an industrial user is not a significant industrial user if it does not meet subsection (3) above.)

Source: 327 IAC 5-17-23

21) What is "significant noncompliance"?

Answer

It means the status of an industrial user that has caused or allowed a violation that meets one (1) or more of the following criteria:
(a) Chronic violations of wastewater discharge limits.
(b) Technical review criteria (TRC) violations.
(c) Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the control authority determines has caused, alone or in combination with other discharges, interference or pass through, including endangering the health of POTW personnel or the general public.
(d) Any discharge of a pollutant that has caused imminent endangerment to human health, welfare, or to the environment or has resulted in the POTW's exercise of its emergency authority under 327 IAC 5-19-3(1)(G) to halt or prevent such a discharge.
(e) Failure to meet, within ninety (90) days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction, or attaining final compliance.
(f) Failure to provide, within thirty (30) days after the due date, required reports.
(g) Failure to accurately report noncompliance.
(h) Any other violation or group of violations that the control authority determines will adversely affect the operation or implementation of the approved POTW pretreatment program.

Source: 327 IAC 5-17-24

22) What shall NOT be introduced to a POTW by a user of the POTW, whether or not the user is subject to categorical standards or state, local, or any other national pretreatment standard or requirement?

Answer

(a) A pollutant from any source of nondomestic wastewaters that could pass through or cause interference with the operation or performance of the POTW.
(b) A pollutant that could create a fire or explosion hazard in the POTW.
(c) A pollutant that could cause corrosive structural damage to the POTW.
(d) A solid or viscous pollutant in an amount that could cause obstruction to the flow in a sewer or other interference with the operation of the POTW .
(e) A pollutant, including an oxygen demanding pollutant released in a discharge at a flow rate or pollutant concentration that could cause interference with the POTW.
(f) Heat in an amount that could:
(1) Inhibit biological activity in the POTW and result in interference or damage to the POTW; OR
(2) Exceed 40 degrees Celsius (40°C) or 104 degrees Fahrenheit (104°) at the POTW unless the commissioner, upon request of the POTW, approves alternate temperature limits.
(g) Petroleum, oil, nonbiodegradable cutting oil, or products of mineral oil origin in an amount that cause interference or pass through.
(h) A pollutant that could result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.
(i) A trucked or hauled pollutant, except:
(1) With the permission of the POTW; AND
(2) When introduced to the POTW at a discharge point designated by the POTW.

Source: 327 IAC 5-18-2(a)

23) What are the general provisions for the categorical pretreatment standards, unless specifically noted otherwise?

Answer

(a) Enforceable by the commissioner against an industrial user upon the incorporation by reference of such standards in 327 IAC 5-18-10 in accordance with IC 4-22-2; AND
(b) In addition to all applicable pretreatment standards and requirements in the pretreatment rules.

Source: 327 IAC 5-18-4(a)(1)

24) When is a POTW required to have a pretreatment program?

Answer

(a) A POTW, or combination of POTWs operated by the same authority, that meets AT LEAST ONE of the following conditions must establish a POTW pretreatment program:
    (1) Has a total design flow greater than five (5) million gallons per day (mgd) and receives pollutants, from one (1) or more industrial users, that may pass through or interfere with the operation of the POTW.
    (2) Receives flow subject to pretreatment standards or requirements under 327 IAC 5-18.
(b) A POTW with a design flow of five (5) mgd or less may also be required to develop a POTW pretreatment program if the commissioner determines that a pretreatment program to prevent interference or pass through at the POTW is warranted due to the nature or volume of one (1) or more of the following;
    (1) Industrial influent.
    (2) Treatment process upset.
    (3) Violations of POTW effluent limitations.
    (4) Contamination of municipal sludge.
    (5) Other circumstances.
(c) A POTW desiring to modify categorical pretreatment standards under 327 IAC 5-20 must have an approved POTW pretreatment program.

Source: 327 IAC 5-19-1

25) What is the purpose of a POTW pretreatment program?

Answer

The purpose of a POTW pretreatment program is to provide the POTW with the administrative and technical capability to ensure that industrial users of the POTW comply with applicable pretreatment standards and requirements.

Source: 327 IAC 5-19-2(a)

26) What are the requirements that an approved POTW pretreatment program must fully and effectively exercise and implement?

Answer

(a) The POTW must operate under legal authority, enforceable in federal or state court.
(b) The POTW shall have procedures to ensure compliance with the requirements of an approved POTW pretreatment program.
(c) The POTW must have sufficient resources and qualified personnel to carry out the approved POTW pretreatment program.
(d) The POTW must develop local limits as required or demonstrate that they are not necessary.
(e) The POTW must develop and implement an enforcement response plan. This plan must contain detailed procedures demonstrating how a POTW will investigate and respond to instances of industrial user noncompliance.
(f) The POTW shall prepare a list of its industrial users meeting the criteria in 327 IAC 5-17-22. This list, and any subsequent modifications, must be submitted to the commissioner as a non-substantial modification of the approved POTW pretreatment program.

Source: 327 IAC 5-19-3

27) POTWs not required to have an approved POTW pretreatment program must meet the following?

Answer

(a) Comply with a decision of the commissioner who has the responsibility of implementing a POTW pretreatment program that will achieve the objectives stated in 327 IAC 5-16-1(b) if the commissioner

determines that a need exists for such a POTW pretreatment program. Generally, such a state pretreatment program will be implemented at the local POTW through the use of procedures comparable to those described under section 3(2) of this rule and, ultimately, the issuance of appropriate industrial wastewater pretreatment permits under 327 IAC 5-21.

(b) Develop, adopt, and enforce a sewer use ordinance that implements the standards for prohibited discharges in accordance with 327 IAC 5-18-2.

(c) Comply with any requirements of the commissioner specified in the POTW's NPDES permit to perform certain elements of an approved POTW pretreatment program, such as monitoring for industrial pollutants in the discharges from the POTW's industrial users.

Source: 327 IAC 5-19-7

28) Under what conditions shall an industrial user be required to obtain an Industrial Wastewater Pretreatment (IWP) Permit for a discharge of wastewater into a POTW?

Answer

If ONE (1) of the following situations exists:

(a) The discharge is from a significant industrial user as defined in 327 IAC 5-17-22 and is discharged into a POTW that is not required to have an approved POTW pretreatment program under 327 IAC 5-19-1.

(b) The commissioner determines that an IWP permit is needed for effective control of an industrial discharge.

Source: 327 IAC 5-21-2(a)

29) What are the time requirements for the submission of IWP permit applications?

Answer

No later than:

(a) 180 days prior to the expiration date of an existing permit.

(b) 180 days prior to the date when a new industrial discharger intends to commence discharging to a POTW.

(c) In the case of an initial issuance of an IWP permit to a significant industrial user or to an industrial user determined by the commissioner to be subject to the IWP permit requirements, no later than 120 days after the latter of:

(1) The promulgation of an applicable categorical pretreatment standard; OR

(2) The date of notification by the commissioner of a determination made according to section 2(a)(2) of this rule.

(d) 120 days prior to a planned expansion or modification of production or treatment facilities or processes that are likely to cause a significant increase in quantity of pollutants or a change in the nature of pollutants discharged to the POTW by an industrial user with an existing IWP permit.

Source: 327 IAC 5-21-3

30) What requirements shall an IWP permit holder comply with?

Answer

(a) The IWP permit as issued or modified.

(b) The POTW receiving the permitted industrial discharge.

(c) The local government having jurisdiction over the industrial discharge or the construction or operation of the discharging facility.

Source: 327 IAC 5-21-4

31) Do the provisions of the NPDES permits rule 327 IAC 5-2-6, concerning the duration, continuation, and transferability of NPDES permits also apply to IWP permits issued under this rule?

Answer

Yes.

Source: 327 IAC 5-21-5

32) What information must the IWP permittee provide the commissioner in the event of permit noncompliance (the permittee does not or will not be able to comply for any reason with any discharge limitation specified in the permit)? What is the time requirement for reporting?

Answer

(a) A description of the discharge and cause of noncompliance.
(b) The period of noncompliance, including exact dates and times of the non-complying event and the anticipated time when the discharge will return to compliance.
(c) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.
(d) The permittee shall take all reasonable steps to minimize any adverse impact to the POTW or to waters of the state resulting from noncompliance with the IWP permit.
(e) The information must be reported to the commissioner within 24 hours of an event of permit noncompliance.

Source: 327 IAC 5-21-6(c) and (d)

327 IAC ARTICLE 5. Rule 22. Operator Certification

1) If it is found that the certified operator has violated any provision of IC 13-18-11-8, the commissioner may ____A____ or ____B____ the wastewater treatment certificate of a wastewater treatment certified operator following a ____C____ pursuant to IC 4-21.5.

Answer

(a) Suspend.
(b) Revoke.
(c) Hearing.

Source: 327 IAC 5-22-18

2) A person who is caught cheating on an examination will be ineligible to take any operator certification examination for a period of _____ following the examination date of the incidence of cheating.

Answer

Two years.

Source: 327 IAC 5-22-11(d)(2)(B)

3) When there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility, the owner or governing body of a wastewater treatment plant shall notify the commissioner no later than _____ days after a change in the operator.

Answer

Thirty days.

Source: 327 IAC 5-22-10(a)

4) What is the definition of "acceptable experience"?

Answer

It is employment in the actual hands-on operation of a wastewater treatment plant. Experience in wastewater treatment plant maintenance will be given fifty percent (50%) credit for operational experience for those employed solely in this area. Experience in wastewater laboratory will be given full credit for operational experience for those employed solely in this area.

Source: 327 IAC 5-22-3(1)

5) What is the definition of "responsible charge experience"?

Answer

It is experience that is credited to the person responsible for the overall daily operation, supervision, or management of a water or wastewater facility. In Class III, IV, C, or D plants, the individual supervising and responsible for a major section of the plant or an operating shift may be credited with responsible charge experience.

Source: 327 IAC 5-22-3(10)

6) What is a "contact hour"?

Answer

A "contact hour" is a fifty (50) to sixty (60) minute instructional session involving a qualified instructor or lecturer. Ten (10) contact hours equals one (1) continuing education unit (CEU). For example, an operator receives a certificate upon completion of an IDEM-approved California State University at Sacramento

correspondence course. California State grants nine (9) CEUs for most of their wastewater courses. This means that the operator has earned ninety (90) contact hours for this course.

Source: 327 IAC 5-22-3(7)

7) Define "training provider".

Answer

A "training provider" is a person or organization that conducts or presents a course training session approved under this rule.

Source: 327 IAC 5-22-3-(11)

8) A certified operator may be designated as being in responsible charge of more than one wastewater treatment plant if it can be demonstrated that the certified operator will give adequate supervision to all units involved. As used in this section, "adequate supervision" means:

Answer

(a) The certified operator is knowledgeable of the actual operations.
(b) That test reports and results are representative of the actual operational conditions.

Source: 327 IAC 5-22-10(b)

9) Certification examinations are to be held at places and times established by the commissioner:

Answer

(a) With at least sixty (60) days advanced announcement; AND
(b) Except in such cases as may be declared necessary exceptions by the commissioner.

Source: 327 IAC 5-22-11(a)(3)

10) Applications to sit for a certification examination must be:

Answer

Completed on an application form approved by the commissioner that:
(a) Contains true and accurate information to the best of the applicant's knowledge; AND
(b) Is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.

Source: 327 IAC 5-22-11(b)(1)

11) What is the deadline for exam applications to be postmarked?

Answer

Applications MUST be postmarked no later than forty-five (45) days prior to the examination day. **(There are no exceptions.)**

Source: 327 IAC 5-22-11(b)(2)

12) A wastewater treatment certified operator needing a replacement or duplicate certificate must submit a written request to the commissioner, including the following information:

Answer

(a) The class of wastewater treatment operator.
(b) The name and classification of the wastewater treatment plant to be operated.
(c) The date of issuance of the original certificate, if known.
(d) The certificate number.

Source: 327 IAC 5-22-14(e)

13) A certification may be issued without testing in the following instances:

Answer

(a) The Operator-in-Training certification.
(b) By reciprocity with another U.S. state.
(c) By provisional certification.
(d) A certified operator holding a valid nonindustrial wastewater treatment certificate for Class I, Class II, Class III, or Class IV may obtain a Class A industrial certificate without examination by submitting an application for the Class A certificate and the application fee. A certified operator holding a valid industrial certificate for Class A, Class B, Class C, or Class D may obtain a Class I nonindustrial

certificate without examination by submitting an application for the Class I certificate and the application fee.

Source: 327 IAC 5-22-11(g)

14) A wastewater treatment facility may be reclassified by the commissioner if a change occurs to the wastewater treatment plant's operation, treatment process, or influent wastewater. What requirements must the commissioner fulfill?

Answer

The commissioner must:

(a) Consider reclassification of a wastewater treatment plant based upon information supplied by the governing body or owner in a construction permit application for modification.
(b) Give written notice of a reclassification to the governing body or owner and to the certified operator in responsible charge indicating the following:
  (1) The classification of certified operator that is necessary to supervise the reclassified wastewater treatment plant.
  (2) A date by which time a certified operator required according to 327 IAC 5-22-6(1) must be in responsible charge of the reclassified wastewater treatment plant.

Source: 327 IAC 5-22-6(a)

15) What types of wastewater treatment facilities may be classified as a Class D facility regardless of the average daily flow?

Answer

(a) Deep well injection systems.
(b) Thermal evaporators.
(c) Incinerators used in conjunction with liquid waste disposal.
(d) An industry utilizing a highly complex wastewater treatment method.

Source: 327 IAC 5-22-5(C)&(E)

16) If a there are two (2) or more wastewater treatment plants at one (1) industrial site and each independent wastewater treatment plant is classified as a Class B or Class C wastewater facility, how will that industrial site be classified?

Answer

It will be classified as a Class D wastewater treatment facility.

Source: 327 IAC 5-22-5(D)

17) If an industrial wastewater treatment plant has more than one (1) treatment process despite having only one (1) wastewater treatment plant, that industrial wastewater treatment plant shall be classified into the classification of the most complex component of wastewater treatment performed in relation to what factors?

Answer

(a) Secondary treatment PE.
(b) Spray irrigation volume.
(c) Chemical treatment volume.

Source: 327 IAC 5-22-5(b)

18) If an operator’s card expires June 30, 2006, he may continue to act as operator in responsible charge of a facility until when?

Answer

June 30, 2006. There is no grace period beyond the card’s expiration date. Continuing to act as a certified operator with an expired card places both the operator and facility in violation of the NPDES permit, IC 13-18, and 327 IAC 5.

Source: 327 IAC 5-22-14(a)(3)

19) A certified operator must complete continuing education contact hours according to 327 IAC 5-22 Table 15(6). The subject matter of continuing education contact hours must be distributed according to the following:

Answer

(a) A minimum of seventy percent (70%) of the required continuing education contact hours shall be obtained from the technical category of approved continuing education courses. (Therefore an operator may choose to earn all contact hours in a technical subject.)
(b) No more than thirty percent (30%) of the required continuing education contact hours shall be obtained from non-technical subject matter of approved continuing education courses.

Source: 327 IAC 5-22-15(c)

20) When must a training provider submit an application to the commissioner to receive continuing education course approval?

Answer

The application must be submitted no less than sixty (60) days before the first date when the course is conducted.

Source: 327 IAC 5-22-16(a)(1)

21) What information must be included in an application for approval of a wastewater treatment continuing education course?

Answer

(a) Name, address, and telephone number of a course sponsor, training provider, or other contact person;
(b) Name of course;
(c) Specific topics that are included in the course presentations;
(d) Amount of time devoted to each topic;
(e) Instructor's name and qualifications, including;
    (1) Educational background;
    (2) Professional experience; AND
    (3) Current professional affiliation; AND
(f) Dates and locations where the course will be offered.

Source: 327 IAC 5-22-16(a)(1)(D)

22) The certified operator may petition the commissioner for approval of a wastewater treatment continuing education course if what procedures are met?

Answer

(a) An application is submitted prior to or within thirty (30) days of course completion.
(b) The application contains the information required by 5-22-16(a).
(c) The certified operator supplies written proof of attendance at the wastewater treatment continuing education course within thirty (30) days following course completion.

Source: 327 IAC 5-22-16(b)

23) What qualifications must a continuing education course meet in order to be approved for continuing education contact hours?

Answer

The course deals with one or more of the following as determined by the commissioner:
(a) Technical matters related directly to wastewater treatment.
(b) General matters related to the responsibilities of a certified operator.

Source: 327 IAC 5-22-16(a)(2)

24) Can a certified operator who is an instructor or speaker at a wastewater treatment continuing education course earn contact hours for that course?

Answer

Yes, the instructor or speaker shall be credited the same number of contact hours as the students of the course. Source: 327 IAC 5-22-15(c)

25) Is partial credit granted for wastewater continuing education courses?

Answer

No, partial credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course.

Source: 327 IAC 5-22-15(e)

26) What information must a training provider generate for each continuing education course conducted?

Answer

(a) The date of the wastewater treatment continuing education course.
(b) The name of each person in attendance at the wastewater treatment continuing education course.
(c) The length of time of the course.
(d) The instructor's name.
(e) The course content.
(f) The name of the organization sponsoring the course.

Source: 327 IAC 5-22-17(a)

27) How long must the training provider maintain the records required by 327 IAC 5-22-17(a) following the presentation of each wastewater treatment continuing education course?

Answer

Five (5) years.

Source: 327 IAC 5-22-17(b)

327 IAC ARTICLE 6.1 Application of Biosolid, Industrial Waste Product, and Pollutant-Bearing Wastewater

1) What does a land application permit regulate?

Answer

A land application permit regulates the disposal of any biosolid, contaminant that is an industrial waste product, or pollutant-bearing water by application upon or incorporation into the soil.

Source: 327 IAC 6.1-1-1(b)

2) What is "aerobic digestion" or "aerobic process"?

Answer

It is the biochemical decomposition of organic matter into carbon dioxide and water by microorganisms in the presence of oxygen.

Source: 327 IAC 6.1-2-2

3) Define "agricultural land".

Answer

"Agricultural land" means land used for the following purposes:

(a) Production of a food crop.
(b) Production of a feed crop.
(c) Production of a fiber crop.
(d) Production of trees for harvest.
(e) Pasture for animals.

Source: 327 IAC 6.1-2-3

4) What is "anaerobic digestion" or "anaerobic process"?

Answer

It is the biochemical decomposition of organic matter into methane gas and carbon dioxide by microorganisms in the absence of oxygen.

Source: 327 IAC 6.1-2-4

5) Define “annual pollutant loading rate”

Answer

It means the maximum amount of an inorganic pollutant that can be applied to any land during a three hundred sixty-five (365) day period.

Source: 327 IAC 6.1-2-5

6) Define “beneficial use”.

Answer

“Beneficial use” means the use of a material for fertilizing or soil conditioning properties to:

(a) Provide nutrients for growing plants or crops;
(b) Increase organic matter;
(c) Provide pH adjustment capabilities; OR
(d) Provide other benefits to the soil or crops as shown to the satisfaction of the commissioner through an approved research or demonstration project under 327 IAC 6.1-4-19.

Source: 327 IAC 6.1-2-6

7) Define “biosolid”

Answer

It means solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Examples include the following:

(a) Scum or solids removed in primary, secondary, or advanced wastewater treatment processes.
(b) A material derived from biosolid.
(c) An industrial waste product that contains domestic sewage or material under (a) or (b) above.

Biosolid does not include ash generated during the firing of biosolid in a biosolid incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Source: 327 IAC 6.1-2-7

8) What does “disinfection” mean?

Answer

It means the destruction, neutralization, inhibition, inactivation or removal of pathogenic microorganisms by chemical, physical or biological means.

Source: 327 IAC 6.1-2-15

9) Define “freeboard”.

Answer

“Freeboard” means the distance between the top of the stored biosolid, industrial waste product, or pollutant-bearing water and the overflow level of the storage structure.

Source: 327 IAC 6.1-2-24

10) Define “incorporated into the soil”

Answer

It means the mixing of the biosolid or industrial waste product with the surface soil using standard agricultural practices such as tillage.

Source: 327 IAC 6.1-2-27

11) What is an “industrial waste product”?

Answer

(a) Material that is not considered biosolid or pollutant-bearing water under this article.
(b) Material that is generated as waste in the production process and may be disposed of through:
    (1) Surface application;
    (2) Injection; OR
    (3) Incorporation into the soil.
(a) Material that meets the following criteria:
    (1) Is a solid waste as defined under 329 IAC 10-2-174.
    (2) Does not include material from any processes listed in 329 IAC 10-3-1.
    (3) Is used for a beneficial use as defined under 327 IAC 6.1-2-6.

Source: 327 IAC 6.1-2-30

12) Define “injection”.

Answer

“Injection” means the direct, uniform placement of biosolid, industrial waste product, or pollutant-bearing water beneath the surface of the soil using equipment specifically for this purpose.

Source: 327 IAC 6.1-2-31

13) Define “land application”.

Answer

It means the beneficial use of a biosolid, industrial waste product, or pollutant-bearing water by:

(a) Spraying or spreading onto the land surface;
(b) Injection below the land surface; OR
(c) Incorporation into the soil.

Source: 327 IAC 6.1-2-32

14) What is “land with a high potential for public exposure”?

Answer

This means land that:

(a) Does not have restricted access;
(b) Is easily accessible to the public; OR
(c) Is used by the public during normal work or recreational activities.

Source: 327 IAC 6.1-2-34(a)

15) How is “pasture” defined in the land application rule?

Answer

“Pasture” means land on which animals feed directly on vegetation, such as legumes, grasses, stubble, or stover.

Source: 327 IAC 6.1-2-38

16) Define “pathogenic organisms”.

Answer

It means disease-causing organisms, including the following:

(a) Certain bacteria.
(b) Protozoa.
(c) Viruses.
(d) Viable helminth ova.
(e) Fungi.
(f) Other disease-causing organisms.

Source: 327 IAC 6.1-2-39

17) What is a definition of pH?

Answer

“pH” means the logarithm of the reciprocal of the hydrogen ion concentration.

Source: 327 IAC 6.1-2-44

18) What is “set aside” or “idle”?

Answer

It means agricultural land upon which no crop is grown during a crop season.

Source: 327 IAC 6.1-2-49

19) What is “staging”?

Answer

It is the temporary placement of a dewatered biosolid or industrial waste product in a pile for less than twenty-four (24) hours at the site where the dewatered biosolid or industrial waste product will be land applied.

Source: 327 IAC 6.1-2-51

20) Define “stockpiling”.

Answer

It means the temporary placement of a dewatered biosolid or industrial waste product in a pile for more than twenty-four (24) hours but less than five (5) working days at the land application site in accordance with an approved management plan.

Source: 327 IAC 6.1-2-54

21) What does “storage” mean?

Answer

“Storage” means containment of biosolid, industrial waste product, or pollutant-bearing water for a period of two (2) years or less at the following:

(a) Treatment plant.
(b) Generating facility.
(c) Approved off-site storage structure or earthen lagoon.

Source: 327 IAC 6.1-2-55

22) Define “unstabilized solids”?

Answer

It means the organic materials in biosolid that have not been treated in:

(a) An aerobic treatment process; OR
(b) An anaerobic treatment process.

Source: 327 IAC 6.1-2-58

23) What is “vector attraction”?

Answer

“Vector attraction,” means the characteristic of biosolid that attracts:

(a) Rodents;
(b) Flies;
(c) Mosquitoes; or
(d) Other organisms capable of transporting infectious agents.

Source: 327 IAC 6.1-2-59

24) Define “volatile solids”.

Answer

Volatile solids means the amount of the percent total solids in biosolid or pollutant-bearing water lost when the biosolid or pollutant-bearing water is combusted at five hundred fifty degrees Celsius (550□C) in the presence of excess oxygen.

Source: 327 IAC 6.1-2-60

25) Define “wetlands”

Answer

It means those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support and that, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include the following:

(a) Swamps.
(b) Marshes.
(c) Bogs.
(d) Similar areas.

Source: 327 IAC 6.1-2-62

26) What is “windrow composting”?

Answer

It is a process where biosolid is composted in long rows that are aerated by convective air movement and diffusion and turned periodically as required in 327 IAC 6.1-4-14 by mechanical means to expose the organic matter to ambient oxygen.

Source: 327 IAC 6.1-2-63

27) Define "within-vessel".

Answer

It means biological stabilization of biosolid under controlled aerobic conditions in a closed vessel or an enclosed structure.

Source: 327 IAC 6.1-2-64

28) How many days prior to the land application of sludge should a municipality apply for the renewal of an existing or for a new land application permit?

Answer

A permit application must be submitted at least 180 days prior to the proposed commencement of the operation.

Source: 327 IAC 6.1-3-1(b)

29) What is the maximum duration of a land application permit?

Answer

Except as specifically provided for elsewhere in this article or by Indiana statute, permits may be issued by the commissioner for any period of time not to exceed five (5) years as specified by IC 13-15-3.

Source: 327 IAC 6.1-3-4

30) What is the procedure to transfer a permit issued under 327 IAC 6.1?

Answer

(a) The permittee notifies the commissioner of the proposed transfer at least forty-five (45) days prior to the date of the proposed transfer of the permit; AND

(b) A written agreement is submitted to the commissioner containing the information specified in 327 IAC 6.1-3-5(a)(2)(B).

Source: 327 IAC 6.1-3-5(a)

31) Application of a biosolid or industrial waste product must not be conducted within _____ of any **waters of the state** except by subsurface injection or incorporation by the end of the day.

Answer

300 feet

Source: 327 IAC 6.1-4-6(a)(2)

32) Application of a biosolid or industrial waste product must not be conducted within _____ of **residence**, except by subsurface injection.

Answer

300 feet.

Source: 327 IAC 6.1-4-6(a)(3)

33) Application of a biosolid or industrial waste product must not be conducted within _____ of any well.

Answer

50 feet.

Source: 327 IAC 6.1-4-6(a)(4)

34) Application of a biosolid or industrial waste product must not be conducted within _____ of a potable water well or drinking water spring.

Answer

200 feet.

Source: 327 IAC 6.1-4-6(a)(5)

35) Application of a biosolid or industrial waste product must not be conducted within _____ of any public building or public or nonpublic school.

Answer

50 feet of the property line.

Source: 327 IAC 6.1-4-6(a)(6)

36) Liquid biosolid or industrial waste product may be applied by surface application on slopes that are no greater than _____ .

Answer

Eighteen per cent (18%).

Source: 327 IAC 6.1-4-6(d)

37) Site restrictions for the land application of biosolid or industrial waste product must not be applied to land unless there is a minimum depth of _____ inches of soil overlying bedrock.

Answer

Twenty inches.

Source: 327 IAC 6.1-4-6(e)

38) Unless the commissioner grants an exception, what must the soil pH level be at the time a biosolid, containing a cadmium level of no more than two (2) milligrams per kilogram or greater is land applied?

Answer

Soil pH of 5.5 or greater.

Source: 327 IAC 6.1-4-6(f)

39) Where can an operator obtain the information necessary to perform the "electronic method" required in 327 IAC 6.1-4-6(h)?

Answer

The "electronic method" required in 327 IAC 6.1-4-6(h) may be found in "Methods of Soil Analysis, Agronomy Monograph No. 9." (C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 199-209, 1982, Soil Science of America, Inc., 677 South Segoe Road, Madison, Wisconsin 53711. At the time of printing, this document is available from IDEM, Office of Land Quality, for copying.)

Source: 327 IAC 6.1-4-6 (footnote)

40) A wastewater treatment plant is planning to apply on land used for the production of food crops. How long must the farmer wait before s/he can harvest a food crop if the harvested part (1) touches the ground where the biosolid has been applied; and (2) has no harvested parts below the soil surface?

Answer

Fourteen (14) months after application of a biosolid.

Source: 327 IAC 6.1-4-7(a)

41) Grazing of animals on land that has received biosolid is prohibited for _____ after the application of biosolid.

Answer

Thirty days.

Source: 327 IAC 6.1-4-7(e)

42) Except for a Class A biosolid under section 13(b) of this rule:

Public access to land with a HIGH potential for public exposure shall be restricted for ____A____ after application; and public access to land with a LOW potential for public exposure shall be restricted for ____B____ after application of biosolid to that land.

Answer

(a) One (1) year.
(b) Thirty (30) days.

Source: 327 IAC 6.1-4-7(g) & (h)

43) A biosolid or industrial waste product may only be applied to land that is frozen or snow-covered if _____ .

Answer

(a) A biosolid or industrial waste product does not enter a wetland or other waters of the state; and
(b) A management plan has been submitted and approved by the commissioner including the following:
    (1) Setbacks;
    (2) Application rates;
    (3) Site characteristics;
    (4) Supervision and operational oversight; AND
    (5) Other applicable information.

Source: 327 IAC 6.1-4-7(l)

44) During inclement weather when biosolids or industrial waste products cannot be land applied, what must a facility do with the biosolids or industrial waste products that are continually being produced?

Answer

Each facility that holds a land application permit is required to have a minimum of (ninety) 90 days effective storage capacity for biosolid or industrial waste product unless the commissioner approves an equivalent method of meeting the requirement.

Source: 327 IAC 6.1-4-8(a)

45) A biosolid or industrial waste product for land application may be stored for no more than __

Answer

Two years. Source: 327 IAC 6.1-4-8(e)

46) There are nine heavy metals that must be monitored during land application activities. Which ceiling concentration limit of these nine metals is the most stringent?

Answer

Mercury. Source: 327 IAC 6.1-4-9

47) What unit is used to express the maximum annual metal loading rates for sites where biosolid or industrial waste product is land applied?

Answer

Pounds per acre per 365-day period.

Source: 327 IAC 6.1-4-9(d)

48) Maximum crop and annual loading rates are determined for biosolid or industrial waste product to be applied on the basis of what?

Answer

Plant Available Nitrogen (PAN) in the product, existing nitrogen in the soil, and the nitrogen removal rate for the proposed crop to be grown on the land application site.

Source: 327 IAC 6.1-4-10(a)

49) The allowable nitrogen application rate for a land application site must be adjusted to account for application of fertilizers, manure and the presence of _____ in the soil from previous applications of biosolid, industrial waste product or pollutant-bearing water.

Answer

Residual available nitrogen Source: 327 IAC 6.1-4-10(b)(B)

50) What are the formulae for PAN loading calculations use in 327 IAC 6.1 to calculate the amount of PAN in the biosolid or industrial waste product and the residual available nitrogen at the application site?

Answer

All calculations are based on a percent dry weight basis (where "N" = nitrogen):

(a) %Total N = %Total Kjeldahl N + %Nitrate N

(b) %Organic N = %Total N – (%Ammonium N +Nitrate N)

(c) Pounds Organic N per dry ton of industrial waste product or biosolid, except anaerobically digested biosolid, available during year of application = %Organic N x 6

(d) Pounds Organic N per dry ton of anaerobically digested biosolid available during year of application = %Organic N x 4

(e) Pounds of Ammonium N per dry ton = % Ammonium N x 20

(f) Pounds of Nitrate N per dry ton = %Nitrate N x 20

(g) Pounds PAN per dry ton = Pounds of Organic N per dry ton + Pounds of Ammonium N per dry ton + Pounds of Nitrate N per dry ton

(h) Residual nitrogen from past biosolid or industrial waste product applications:

(1) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available one (1) year after application = %Organic N x 3 x dry tons applied per acre

(2) Pounds of residual N from anaerobically digested biosolid available one (1) year after application = %Organic N x 2 x dry tons applied per acre

(3) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available two (2) years after application = %Organic N x 1.6 x dry tons applied per acre

(4) Pounds of residual N from anaerobically digested biosolid available two (2) years after application = %Organic N x dry tons applied per acre

(5) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available three (3) years after application = %Organic N x 0.8 x dry tons applied per acre

(6) Pounds of residual N from anaerobically digested biosolid available three (3) years after application = %Organic N x 0.5 x dry tons applied per acre

Source: 327 IAC 6.1-4-10(b)

51) Land application of a biosolid or industrial waste product containing concentrations of polychlorinated biphenyls (PCBs) at_____ or greater on a dry weight basis is prohibited.

Answer

2 mg/kg. Source: 327 IAC 6.1-4-12

52) The characteristics of a biosolid or industrial waste product must be monitored as required in Table 6 of 327 IAC 6.1-4-16(e). What are the total metals listed?

Answer

Arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.

Source: 327 IAC 6.1-4-16(e)(2)

53) The land application rule, 327 IAC 6.1, establishes standards for monitoring and analysis requirements. Prior to land application, representative samples of biosolid or industrial waste product must be analyzed for what?

Answer

Biosolid or industrial waste product that is to be land applied shall be collected and analyzed for percent total solids, total metals, polychlorinated biphenyls (PCBs), applicable pathogen density requirements, and applicable vector attraction reduction requirements at the frequency listed in Table 6 in 327 IAC 6.1-4-16(f).

Source: 327 IAC 6.1-4-16(e)

54) A nutrient sample (i.e. percent total solids, total nitrogen, ammonia N, nitrate N, phosphorus and potassium) is to be analyzed from a composite taken as land application activities take place. This composite is to represent activities during a period not to exceed _____.

Answer

Thirty days.

Source: 327 IAC 6.1-4-16(i)

55) The person who prepares the biosolid or industrial waste product must record information regarding application rates and site conditions daily, or as specified by the permit. These records must be:

Answer

(a) Retained by the person who prepares the biosolid or industrial waste product for a minimum of five (5) years or longer if required by the commissioner or permit; AND
(b) Accessible to department representatives at the facility or other location clearly identified in writing to the commissioner.

Source: 327 IAC 6.1-4-17

56) Activities and analyses related to land application of biosolid or industrial waste product must be:

Answer

(a) Reported within thirty (30) days of the last day of each calendar month for the term of the permit, AND
(b) Submitted on forms and in a format prescribed by the commissioner.

Source: 327 IAC 6.1-4-18(a)

57) What are the requirements for alternative uses of permitted biosolid at a permittee domestic sewage treatment works?

Answer

(a) The biosolid must be dewatered.
(b) No more than one (1) dry ton of a biosolid may be used during any twelve (12) month period.
(c) A biosolid may not be used on land with a high potential for public exposure.
(d) Application of a biosolid must be in accordance with the permit.

Source: 327 IAC 6.1-4-20

58) What are the criteria for a biosolid to be eligible for marketing and distribution?

Answer

The following criteria must be met:

(a) The Class A pathogen requirements in 327 6.1-4-13(b).
(b) Compliance with at least one (1) of the vector attraction reduction requirements in 327 IAC 6.1-4-15-(b)(1) through 327 IAC 6.1-4-15(b)(8) or an equivalent vector attraction reduction requirement as determined by the commissioner.
(c) The pollutant concentrations are less than the concentrations in Table 1 in 327 IAC 6.1-4-9(a) and Table 3 in 327 IAC 6.1-4-9(c).
(d) The biosolid must be dewatered.
(e) The biosolid must not contain a concentration of polychlorinated biphenyls (PCBs) of two (2) milligrams per kilogram or greater on a dry weight basis.

Source: 327 IAC 6.1-5-1

59) Processes to significantly reduce pathogens (PSRP) vary according to?

Answer

Type of process, i.e. – aerobic digestion, air drying, anaerobic digestion, composting and lime stabilization;
-and- Type of pathogen, i.e. – Class A and Class B

Source: 327 IAC 6.1-4-14

60) Land application or injection of pollutant of pollutant-bearing water must be conducted under the supervision of:

Answer

(a) A certified wastewater treatment plant operator; OR

(b) A person with at least one (1) year of experience in land application management practices and procedures. (Notice must be submitted to the commissioner of any change in supervisor of the activity.)

Source: 327 IAC 6.1-7-1(a)

61) The supervisor of a domestic sewage treatment works requiring disinfection equipment dependent upon electricity for operation shall submit documentation, for approval by the commissioner, demonstrating an ability to:

Answer

Provide an alternative power source sufficient to operate pathogen reduction equipment for to a degree that pathogen limitations detailed below can be achieved:

(a) Upon the reduction , loss, or failure of power to the disinfection equipment, cease land application of domestic wastewater and cease discharge to a domestic wastewater storage structure used for land application of domestic wastewater for a period of seventy-two (72) hours; OR

(b) Provide an effective alternate method of disinfection, sufficient to a degree that pathogen limitations detailed above are achieved, approved by the commissioner, that does not require electricity for proper operation.

Source: 327 IAC 6.1-7-7(2) & (3)

62) What are the formulae for PAN loading calculations, that apply to 327 IAC 6.1-7, and must be used to calculate the amount of PAN in the pollutant-bearing water and the residual available nitrogen at the application site (all calculations are based on a wet weight basis in milligrams per liter) (where N = nitrogen) 327 IAC 6.1-7-10(b)

Answer

(a) Pounds Organic N applied per acre = $\frac{\text{(Organic N) x (gallons applied) x (8.34)}}{\text{(3.33) x (1,000,000) x (acres applied to)}}$

(b) Pounds of Ammonium N applied per acre = $\frac{\text{(Ammonium N) x (gallons applied) x (8.34)}}{\text{(1,000,000) x (acres applied to)}}$

(c) Pounds of Nitrate N applied per acre = $\frac{\text{(Nitrate N) x (gallons applied) x (8.34)}}{\text{(1,000,000) x (acres applied to)}}$

(d) Pounds PAN applied per acre = Pounds of Organic N applied per acre + Pounds of Ammonium N applied per acre + Pounds of Nitrate N applied per acre

(e) Residual nitrogen from past biosolid or industrial waste products applications:

(1) Pounds of residual N available / acre after one (1) year = $\frac{\text{(Organic N) x (gallons applied) x (8.34)}}{\text{(6.67) x (1,000,000) x (acres applied to)}}$

(2) Pounds of residual N available / acre after two (2) years = $\frac{\text{(Organic N) x (gallons applied) x (8.34)}}{\text{(12.5) x (1,000,000) x (acres applied to)}}$

(3) Pounds of residual N available / acre after three (3) years = $\frac{\text{Organic N) x (gallons applied) x (8.34)}}{\text{(25) x (1,000,000) x (acres applied to)}}$

63) Requests for approval of an earthen lagoon must be:

Answer

(a) Submitted at least ninety (90) days prior to the intended date of construction.

(b) Plans, specifications, and sufficient information to indicate compliance with the requirements of 327 IAC 6.1 must accompany the request for approval. The applicant shall submit additional information as may be required by the commissioner to make a determination.

(c) A registered professional engineer licensed to practice in Indiana must certify plans and specifications for earthen lagoons.

Source: 327 IAC 6.1-8-2

64) Off-site storage structures, except for earthen lagoons, must not be constructed or maintained:

Answer

(a) Within one thousand (1,000) feet of any residence or public building;
(b) Within three hundred (300) feet of any waters of the state;
(c) Within two hundred (200) feet of any well;
(d) In a flood plain; AND
(e) In a manner that allows the biosolid, industrial waste product, or pollutant-bearing water to enter surface waters.

Source: 327 IAC 6.1-8-3(a)

65) Earthen lagoons must not be constructed or maintained:

Answer

(a) Within one thousand (1,000) feet of any residence, public building, or property line;
(b) Within six hundred (600) feet of any waters of the state;
(c) Within two hundred (200) feet of any well;
(d) In a flood plain; AND
(e) In a manner that allows the biosolid, industrial waste product, or pollutant-bearing water to enter surface waters.

Source: 327 IAC 6.1-8-3(b)

66) The off-site storage structure must be maintained and operated to prevent any ____A____ or ____B____ as outlined in 327 IAC 6.1-8-7.

Answer

(a) Nuisance.
(b) Health hazards.

Source: 327 IAC 6.1-8-7

67) In the event an off-site storage structure ceases to be operated or used for more than ____A____ , it is the responsibility of ____B____ to abandon the off-site storage structure properly.

Answer

(a) Two (2) years.
(b) The person who signed the statement submitted in accordance with 327 IAC 6.1-8-1(e).

Source: 327 IAC 6.1-8-8

Section Two: 327 IAC 5-22

Rule 22. Classification of Wastewater Treatment Plants; Examination and Certification of Operators

327 IAC 5-22-1 Purpose

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 1. The purpose of this rule is to establish:
(1) a classification system of wastewater treatment plants; and
(2) the criteria by which a person may become a certified wastewater treatment operator.
The intended result of this rule is to promote excellence among wastewater treatment operators for the ultimate goal of protecting Indiana waters receiving treated wastewater discharged from wastewater treatment plants. *(Water Pollution Control Board; 327 IAC 5-22-1; filed Nov 20, 2000, 4:07 p.m.: 24 IR 963)*

327 IAC 5-22-2 Applicability

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 2. The requirements of this rule apply to a person who works at a wastewater treatment plant in the capacity of a wastewater treatment operator. *(Water Pollution Control Board; 327 IAC 5-22-2; filed Nov 20, 2000, 4:07 p.m.: 24 IR 963)*

327 IAC 5-22-3 Definitions

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-11-2; IC 13-18-11

Sec. 3. In addition to the definitions contained in IC 13-11-2 and 327 IAC 1, the following definitions apply throughout this rule:

(1) "Acceptable experience" means employment in the actual hands-on operation of a wastewater treatment plant. Experience in wastewater treatment plant maintenance will be given fifty percent (50%) credit for operational experience for those employed solely in this area. Experience in wastewater laboratory will be given full credit for operational experience for those employed solely in this area.

(2) "Applicant" means a person seeking certification as a wastewater treatment operator, whether or not the person is currently employed as an operator.

(3) "Application" means a written request for certification under this rule addressed to the commissioner.

(4) "Certificate" means an appropriate document containing the following information:

(A) Affirmation that the named person has fulfilled the requirements, including receiving a passing examination grade, necessary for the operation of the wastewater treatment plant or collection system for which application was made.

(B) The treatment plant classification that may be operated under the issued certificate.

(C) The date of issuance.

(D) An identification number unique to each certificate document.

(5) "Certification card" means a card issued to a person who has fulfilled the requirements to be a wastewater certified operator and contains the following information:

(A) The name and certificate number of the person.

(B) The classification of wastewater treatment plant that the named person may operate.

(C) An expiration date.

(6) "Certified operator" means a person who has:

(A) met the requirements of this rule; and

(B) a valid certificate for wastewater treatment.

(7) "Contact hour" means a fifty (50) to sixty (60) minute instructional session involving a qualified instructor or lecturer. Ten (10) contact hours equals one (1) continuing education unit (CEU).

(8) "Design population equivalent" means the PE for which the plant is designed.

(9) "Population equivalent" or "PE" means the calculated population that would contribute the same amount of biochemical oxygen demand (BOD) per day using the base of seventeen-hundredths (0.17) pound of five (5) day BOD per capita per day.

(10) "Responsible charge" means the person responsible for the overall daily operation, supervision, or management of a water or wastewater facility. In Class III, IV, C, or D plants, the individual supervising and responsible for a major section of the plant or an operating shift may be credited with responsible charge experience.

(11) “Training provider” means a person or organization that conducts or presents a course training session approved under this rule.

(Water Pollution Control Board; 327 IAC 5-22-3; filed Nov 20, 2000, 4:07 p.m.: 24 IR 963)

327 IAC 5-22-4 Classification of wastewater treatment plants; nonindustrial treatment plants

Authority: IC 13-14-8; IC 13-18-11-2; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 4. A nonindustrial wastewater treatment plant shall be classified into one (1) of five (5) classifications based on the design population equivalent of the plant according to the following:

(1) Class I-SP includes all waste stabilization ponds, whether controlled discharge or continuous discharge, regardless of flow.

(2) Class I includes plants having a design population equivalent of less than two thousand (2,000).

(3) Class II includes plants having a design population equivalent equal to or greater than two thousand (2,000) and less than ten thousand (10,000).

(4) Class III includes plants having a design population equivalent equal to or greater than ten thousand (10,000) and less than forty thousand (40,000).

(5) Class IV includes plants having a design population equivalent greater than forty thousand (40,000).

(Water Pollution Control Board; 327 IAC 5-22-4; filed Nov 20, 2000, 4:07 p.m.: 24 IR 964)

327 IAC 5-22-5 Classification of wastewater treatment plants; industrial treatment plants

Authority: IC 13-14-8; IC 13-18-11-2; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 5. (a) An industrial wastewater treatment plant shall be classified into one (1) of five (5) classifications based on the type of treatment provided, design population equivalent, and the average daily flow according to the following:

(1) Class A-SO includes industrial treatment plants having the following:

(A) Primary solids removal facilities, such as settling tanks, settling ponds, sand filters, or screens, used only for removal of settleable inorganic solids.

(B) Tanks, ponds, centrifuges, or other facilities used to separate floatable oils and solids.

(C) Simple pH neutralization may be included.

Wastewater flow is not a limiting factor in the classification of this type of industrial treatment plant.

(2) Class A includes industrial treatment plants having the following:

(A) Secondary treatment facilities, such as:

(i) waste stabilization ponds whether anaerobic or aerobic;

(ii) trickling filter;

(iii) activated sludge-type treatment plants;

(iv) aerated lagoons; or

(v) other biological treatment facilities that treat wastewater loads of less than two thousand (2,000) design population equivalent.

(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow of less than two hundred thousand (200,000) gallons per day.

(3) Class B includes industrial treatment plants having the following:

(A) Secondary treatment facilities, such as:

(i) waste stabilization ponds whether anaerobic or aerobic;

(ii) trickling filter;

(iii) activated sludge-type treatment plants;

(iv) aerated lagoons; or

(v) other biological treatment facilities that treat wastewater loads equal to or greater than two thousand (2,000) design population equivalent and less than ten thousand (10,000) design population equivalent.

(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow equal to or greater than two hundred thousand (200,000) gallons per day and less than one million (1,000,000) gallons per day.

(C) Chemical treatment facilities that process or treat wastewater flow of less than fifty thousand (50,000) gallons per day using one (1) of the following methods:

(i) Cyanide destruction.

(ii) Chromium reduction.

(iii) Acid or alkali neutralization.

(iv) Coagulation and flocculation.

(v) Air flotation.

(vi) Air stripping.
(vii) Wet air oxidation.
(viii) Ion exchange.
(ix) Ultrafiltration.
(x) Reverse osmosis.
(xi) Activated carbon filtration.

(4) Class C includes industrial treatment plants having the following:

(A) Secondary treatment facilities such as:

(i) waste stabilization ponds whether anaerobic or aerobic;
(ii) trickling filter;
(iii) activated sludge-type treatment plants;
(iv) aerated lagoons; or
(v) other biological treatment facilities that treat wastewater loads equal to or greater than ten thousand (10,000) design population equivalent and less than forty thousand (40,000) design population equivalent.

(B) Spray, broad, or ridge and furrow irrigation facilities that treat a wastewater flow equal to or greater than one million (1,000,000) gallons per day and less than four million (4,000,000) gallons per day.

(C) Chemical treatment facilities that process or treat wastewater flow equal to or greater than fifty thousand (50,000) gallons per day and less than two hundred thousand (200,000) gallons per day using one (1) of the following methods:

(i) Cyanide destruction.
(ii) Chromium reduction.
(iii) Acid or alkali neutralization.
(iv) Coagulation and flocculation.
(v) Air flotation.
(vi) Air stripping.
(vii) Wet air oxidation.
(viii) Ion exchange.
(ix) Ultrafiltration.
(x) Reverse osmosis.
(xi) Activated carbon filtration.

(5) Class D includes industrial treatment plants having the following:

(A) Secondary treatment facilities such as:

(i) waste stabilization ponds whether anaerobic or aerobic;
(ii) trickling filter;
(iii) activated sludge-type treatment plants;
(iv) aerated lagoons; or
(v) other biological treatment facilities that treat wastewater loads equal to or greater than forty thousand (40,000) design population equivalent.

(B) Chemical treatment facilities that process or treat a wastewater flow equal to or greater than two hundred thousand (200,000) gallons per day using one (1) of the following methods:

(i) Cyanide destruction.
(ii) Chromium reduction.
(iii) Acid or alkali neutralization.
(iv) Coagulation and flocculation.
(v) Air flotation.
(vi) Air stripping.
(vii) Wet air oxidation.
(viii) Ion exchange.
(ix) Ultrafiltration.
(x) Reverse osmosis.
(xi) Activated carbon filtration.

(C) Deep well disposal systems, thermal evaporators, or incinerators used in conjunction with liquid waste disposal.

(D) Two (2) or more wastewater treatment plants at one (1) industrial site if each independent wastewater treatment plant is classified as a Class B or C wastewater treatment plant.

(E) An industry utilizing a highly complex wastewater treatment method.

(b) If an industrial wastewater treatment plant has more than one (1) treatment process despite having only one (1) wastewater treatment plant, that industrial wastewater treatment plant shall be classified into the classification of the most complex component of wastewater treatment performed in relation to the following factors:

(1) Secondary treatment PE.
(2) Spray irrigation volume.
(3) Chemical treatment volume.

(Water Pollution Control Board; 327 IAC 5-22-5; filed Nov 20, 2000, 4:07 p.m.: 24 IR 964)

327 IAC 5-22-6 Classification of wastewater treatment plants; reclassification

Authority: IC 13-14-8; IC 13-18-11-2; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 6. (a) A wastewater treatment plant may be reclassified by the commissioner if a change occurs to the wastewater treatment plant=s operation, treatment process, or influent wastewater. The commissioner shall do the following:

(1) Consider reclassification of a wastewater treatment plant based upon information supplied by the governing body or owner in a construction permit application for modification.

(2) Give written notice of a reclassification to the governing body or owner and to the certified operator in responsible charge indicating the following:

(A) The classification of certified operator that is necessary to supervise the reclassified wastewater treatment plant.

(B) A date by which time a certified operator required according to clause (A) must be in responsible charge of the reclassified wastewater treatment plant.

(b) A wastewater treatment plant may be reclassified by the commissioner if one (1) of the following situations exists:

(1) The wastewater treatment plant utilizes special or complex equipment or features of design requiring more difficult operation.

(2) The wastewater is unusually difficult to treat.

(3) More than ordinary chemical or bacteriological controls are required.

(4) An unusually high degree of skill is required in the operation of the wastewater treatment plant to assure continuous production of effluent that meets the water quality requirements of the receiving stream and the national pollutant discharge elimination system (NPDES) permit limitations.

(Water Pollution Control Board; 327 IAC 5-22-6; filed Nov 20, 2000, 4:07 p.m.: 24 IR 965)

327 IAC 5-22-7 Qualifications of a certified operator

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 7. (a) In order to become a wastewater treatment plant certified operator, a person must:

(1) meet the minimum qualifications specified in subsection (b); and

(2) pass the wastewater treatment certification examination required by the commissioner unless exempted by statute or rule.

(b) Prior to applying to take the commissioner=s wastewater treatment certification examination, a person must have the following qualifications:

(1) The educational skills necessary to:

(A) cipher fractions and decimals;

(B) read a linear scale;

(C) calculate volumes of simple shapes;

(D) make simple computations of multiplication and division;

(E) keep records;

(F) read and write the English language to the extent of interpreting service manuals and work orders and submitting written reports; and

(G) understand basic principles of science and sanitation.

(2) Experience acceptable to the commissioner in the field of wastewater treatment that:

(A) demonstrates the examination applicant=s technical knowledge;

(B) can be verified based on information from available sources, primarily the applicant=s wastewater treatment plant employer; and

(C) is the result of satisfactory accomplishment of wastewater treatment plant work measured from the date of employment of the applicant to the end of the thirty (30) day grading period following the examination.

(c) In accordance with 327 IAC 8-12-3.2(e), a grade WT3, WT4, and WT5 operator is qualified to apply for the appropriate wastewater treatment certification to treat wastewater from a water treatment plant provided the operator is certified to operate that classification of water treatment plant. *(Water Pollution Control Board; 327 IAC 5-22-7; filed Nov 20, 2000, 4:07 p.m.: 24 IR 965)*

327 IAC 5-22-8 Classification of certified operators

Authority: IC 13-14-8; IC 13-18-11-3; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 8. A wastewater treatment certified operator may possess a valid certification in one (1) or more of the following eleven (11) classes of certified operators:

(1) Class operator-in-training (O.I.T.) is a class for both industrial and nonindustrial wastewater treatment plant operators to whom a certificate shall be issued for a nonrenewable, one (1) year period. In order to be an eligible examination applicant for this operator class, a person must have attained the following:

(A) A high school diploma or equivalent education.

(B) Three (3) months of acceptable experience in a wastewater treatment plant or completion of an approved training course.

(2) Class A-SO is a class for industrial wastewater treatment plant operators of Class A-SO wastewater treatment plants. In order to be an eligible examination applicant for this operator class, a person must have attained the following:

(A) Completion of high school or equivalent education.

(B) One (1) year of acceptable experience in a wastewater treatment plant.

(3) Class I and Class I-SP are classes for nonindustrial wastewater treatment plant operators and Class A is a class for industrial wastewater treatment plant operators. In order to be an eligible examination applicant for these operator classes, a person must have attained the following:

(A) A high school diploma or equivalent education.

(B) One (1) year of acceptable experience at a wastewater treatment plant.

(4) Class II is a class for nonindustrial wastewater treatment plant operators, and Class B is a class for industrial wastewater treatment plant operators. In order to be an eligible examination applicant for these operator classes, a person must have attained the following:

(A) A high school diploma or equivalent education.

(B) Three (3) years of acceptable experience at a wastewater treatment plant.

(5) Class III is a class for nonindustrial wastewater treatment plant operators, and Class C is a class for industrial wastewater treatment plant operators. In order to be an eligible examination applicant for these operator classes, a person must have attained the following:

(A) A high school diploma or equivalent education.

(B) Three (3) years of acceptable experience at a wastewater treatment plant of one (1) of the following types:

(i) Class II.
(ii) Class III.
(iii) Class IV.
(iv) Class B.
(v) Class C.
(vi) Class D.

(C) Two (2) years of the three (3) years experience required by clause (B) must be in a position of responsible charge at a wastewater treatment plant of one (1) of the following types:

(i) Class II.
(ii) Class III.
(iii) Class IV.
(iv) Class B.
(v) Class C.
(vi) Class D.

(6) Class IV is a class for nonindustrial wastewater treatment plant operators, and Class D is a class for industrial wastewater treatment plant operators. In order to be an eligible examination applicant for these operator classes, a person must have attained the following:

(A) A college degree with a major in a science curriculum or an associate=s degree in a curriculum related to wastewater treatment.

(B) At least five (5) years of acceptable experience at a wastewater treatment plant of one (1) of the following types:

(i) Class III.
(ii) Class IV.
(iii) Class C.
(iv) Class D.

(C) Two (2) years of the five (5) years experience required by clause (B) must be in a position of responsible charge at a wastewater treatment plant of one (1) of the following types:

(i) Class III.
(ii) Class IV.
(iii) Class C.
(iv) Class D.

(Water Pollution Control Board; 327 IAC 5-22-8; filed Nov 20, 2000, 4:07 p.m.: 24 IR 966)

327 IAC 5-22-9 Substitution of qualifications

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 9. Education and experience qualifications required by section 8 of this rule may be fulfilled through substitutions based on the following table:

Class	Education	Experience		Substitution of Experience for Responsible Charge	Substitution of Experience for Education
		Total Required	Substitutable		
O.I.T.	High school diploma or G.E.D.	3 months	3 months See Note (4)	_ _ _	See Note (2)
A-SO, A, I, and I-SP	High school diploma or G.E.D.	1 year	0	_ _ _	See Note (2)
B and II	High school diploma or G.E.D.	3 years	1 year See Note (1)	_ _ _	See Note (2)
C and III	High school diploma or G.E.D.	3 years at Class B, II, or higher and 2 years responsible charge	1 year See Note (1)	See Note (5)	See Note (2)
D and IV	College degree See Note (3)	5 years at Class C, III, or higher and 2 years responsible charge	2 years See Note (1)	See Note (5)	See Note (2)

Note (1): Sixteen (16) semester hours, twenty-four (24) credit hours, or twenty-four (24) continuing education units equals one (1) year of experience. There is no substitution of education for responsible charge experience. The portion of education that is applied toward substitution for experience cannot be used for the education requirement.

Note (2): One (1) year of experience equals two (2) years of high school or six (6) months of college. One (1) year of responsible charge experience equals one (1) year of college. The portion of experience that is applied toward substitution for education cannot be used for the experience requirement.

Note (3): One (1) year of college equals thirty-two (32) semester hours, forty-eight (48) credit hours, or four hundred eighty (480) contact hours.

Note (4): Three (3) months of experience may be substituted with the completion of a comprehensive course in wastewater treatment approved by the commissioner.

Note (5): Operational, responsible charge, and educational experience are interchangeable at the following ratios: Two (2) years of operational experience equals one (1) year of responsible charge experience. Two (2) years of operational experience equals one (1) year of college education or two (2) years of high school education. One (1) year of responsible charge experience equals one (1) year of college education or two (2) years of high school education. The portion of experience that is interchanged for another may not be used to satisfy any remaining experience requirement.

(Water Pollution Control Board; 327 IAC 5-22-9; filed Nov 20, 2000, 4:07 p.m.: 24 IR 967)

327 IAC 5-22-10 Responsibilities

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 10. (a) The owner or governing body of a wastewater treatment plant shall notify the commissioner when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

(b) A certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant if it can be demonstrated that the certified operator will give adequate supervision to all units involved. As used in this section, "adequate supervision" means that sufficient time is spent at the wastewater treatment plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operational conditions. *(Water Pollution Control Board; 327 IAC 5-22-10; filed Nov 20, 2000, 4:07 p.m.: 24 IR 968)*

327 IAC 5-22-11 Examination of applicants to become a certified wastewater treatment operator

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 11. (a) A standardized examination prepared to reflect the duties and responsibilities required of each classification of wastewater treatment operator shall be:

(1) used to test knowledge, ability, and judgment of an applicant to become a certified wastewater treatment operator;
(2) conducted at least annually; and
(3) held at places and times established by the commissioner:
    (A) with at least sixty (60) days advanced announcement; and
    (B) except in such cases as may be declared necessary exceptions by the commissioner.

(b) A person wishing to be examined for wastewater treatment certification shall fulfill the following requirements:

(1) Complete an application on a form approved by the commissioner that:
    (A) contains true and accurate information to the best of the applicant=s knowledge; and
    (B) is free of omissions and misrepresentations, either of which may result in rejection of the application or revocation of any certificate previously granted.
(2) Submit a completed application, with the necessary fee, to the commissioner not later than forty-five (45) days preceding the date of the examination.

(c) The commissioner shall:

(1) review an application and supporting documents concerning the eligibility of an applicant for wastewater treatment certification examination; and
(2) issue a written notification in the form of an admission slip providing the time and place of the examination to be presented by an applicant deemed eligible for examination.

(d) A person who has been notified and scheduled to take an examination:

(1) may submit a written request to the commissioner for a postponement to take the examination one (1) offering later than the examination granted by the commissioner if:
    (A) the postponement for a nonemergency reason is requested no later than fourteen (14) days prior to the examination date noticed to the applicant under subsection (c)(2);
    (B) the postponement request for an emergency reason is submitted as soon as conditions of the emergency warrant;
    (C) the applicant provides the commissioner an explicit description of extenuating circumstances necessitating the requested postponement; and
    (D) the applicant understands that only one (1) postponement shall be allowed; or
(2) will be considered to have failed that examination if one (1) of the following occurs:
    (A) The person does not attend the examination and has not requested a postponement according to subdivision (1).
    (B) The person is caught cheating on an examination, an occurrence that will make an applicant ineligible to take any operator certification examination for a period of two (2) years following the examination date of the incidence of cheating.

(e) Completed examinations shall be managed by the commissioner according to the following:

(1) Graded in a manner prescribed by the commissioner with a minimum result of seventy percent (70%) needed in order to pass the examination.
(2) The commissioner shall notify an applicant of the examination result:
    (A) in writing; and
    (B) no later than two (2) months after the date of the examination.

(3) Examination papers shall be retained by the commissioner with an opportunity afforded to an applicant notified of having failed the examination for review of the graded examination until a date ninety (90) days prior to the next scheduled examination if the applicant submits the following to the commissioner:

(A) A written request for review of the graded examination.

(B) A statement affirming the applicant=s understanding that examination review does not include the right to copy, by any means, the examination or any portion of it.

(f) A person previously certified as a wastewater treatment operator under this rule but who has failed to meet the renewal requirements according to section 14 of this rule must fulfill the following:

(1) Retake an examination.

(2) Successful completion of continuing education requirements in the amount required for one (1) renewal period as specified in section 15 of this rule.

(g) The following exceptions may allow a person to receive wastewater treatment certification without taking an examination:

(1) A person seeking wastewater treatment operator's certification by reciprocal recognition or on a provisional basis according to section 13 of this rule may file an application required by subsection (b) at the applicant=s convenience, subject to expiration dates delineated in other sections of this rule.

(2) A certified operator holding a valid nonindustrial wastewater treatment certificate for Class I, Class II, Class III, or Class IV may obtain a Class A industrial certificate without examination by submitting an application required by subsection (b) for the Class A certificate.

(3) A certified operator holding a valid industrial certificate for Class A, Class B, Class C, or Class D may obtain a Class I nonindustrial certificate without examination by submitting an application required by subsection (b) for the Class I certificate.

(Water Pollution Control Board; 327 IAC 5-22-11; filed Nov 20, 2000, 4:07 p.m.: 24 IR 968)

327 IAC 5-22-12 Wastewater treatment operator certification fees

Authority: IC 13-14-8; IC 13-18-11-6; IC 13-18-11-13
Affected: IC 13-18-11-15

Sec. 12. (a) Fees for wastewater treatment operator certification shall be as follows:

(1) Certification, including certificate	$30
(2) Certification by examination for a new classification	$30
(3) Biennial renewal fee	$30

(b) An application fee will not be returned to an applicant who:

(1) is deemed by the commissioner to be ineligible for wastewater certification examination;

(2) does not receive a minimum score of seventy percent (70%) according to section 11(e)(1) of this rule; or

(3) has violated section 11(d)(2)(B) of this rule by cheating on the operator certification examination.

(Water Pollution Control Board; 327 IAC 5-22-12; filed Nov 20, 2000, 4:07 p.m.: 24 IR 969)

327 IAC 5-22-13 Certification; reciprocity; provisional certificate

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11-9

Sec. 13. (a) The commissioner shall issue a certificate designating competency in the appropriate certified operator=s classification to each person who makes proper application if the applicant meets the necessary requirements of education and experience and has successfully completed a class appropriate examination. Upon successful completion of examination according to section 11 of this rule, the commissioner shall issue a certificate in the wastewater treatment operator classification for which the applicant was examined.

(b) The commissioner may issue a certificate by reciprocity as outlined in IC 13-18-11-9 if the following conditions are met:

(1) A person seeking reciprocal certification submits an application for such a certificate that includes the following:

(A) Proof of current certification.

(B) Classification of the applicant.

(2) A person from another state seeking a certificate by reciprocity earns the number of continuing education contact hours for future renewal periods in the time period required by section 15 of this rule though no continuing education contact hours shall be required at the time of conferring the reciprocal certification.

(c) The commissioner may issue a provisional wastewater treatment operator=s certificate if the following occur:

(1) The governing body or owner of a wastewater treatment plant submits a written request specifying a reason necessitating the provisional certification, including one (1) of the following:

(A) To fill a vacancy created by death.

(B) Resignation of the certified operator in responsible charge.(C) Extended illness of the certified operator in responsible charge.

(2) The written request required by subdivision (1) provides the name, education, and experience of the person for whom the provisional certificate is requested.

(3) The provisional certificate nominee named under subdivision (2) submits, simultaneously with the request submitted under subdivision (1), an application as required by section 11(b) of this rule requesting examination and certification.

(4) The provisional certificate nominee named under subdivision (2) is eligible for the next scheduled wastewater certification examination.

(d) A provisional certificate shall be:

(1) issued by the commissioner in the form of a letter that specifies the conditions of the certification; and

(2) valid for the shorter of the following lengths of time:

(A) The period between the date of application and the end of the thirty (30) day grading period following the next examination that is available to the provisional certificate nominee.

(B) One (1) year.

(Water Pollution Control Board; 327 IAC 5-22-13; filed Nov 20, 2000, 4:07 p.m.: 24 IR 969)

327 IAC 5-22-14 Certificates and certification cards; renewal; duplicates

Authority: IC 13-14-8; IC 13-18-11-4; IC 13-18-11-13

Affected: IC 13-18-11-6

Sec. 14. (a) A wastewater treatment operator=s certificate shall:

(1) be issued after an applicant=s successful completion of the classification appropriate examination;

(2) specify the month and year that the applicant qualified and the issuance date of the certificate;

(3) be permanent in nature but will be effective only when validated by a current certification card; and

(4) not be valid if obtained through fraud, deceit, or the submission of inaccurate data on the examination application.

(b) A certificate, issued on the basis of the applicant=s having been in responsible charge of a wastewater treatment plant prior to July 1, 1968, shall remain valid until one (1) of the following occurs:

(1) A change in the classification of the wastewater treatment plant for one (1) of the following reasons:

(A) Increased capacity.

(B) An increase in population served.

(C) A basic change in the method of wastewater treatment.

(D) Other change in conditions which requires a more difficult operation.

(2) The operator is no longer in direct responsible charge.

(c) A wastewater treatment certified operator must:

(1) provide permanent and visible display of his or her certificate at the wastewater treatment plant office; and

(2) obtain a duplicate certificate to display in the office of each wastewater treatment plant supervised, if the certified operator supervises more than one (1) wastewater treatment plant.

(d) A certification card shall:

(1) be issued for a time period of no more than twenty-four (24) months; and

(2) expire on the last day of June nearest the end of the biennial period following the certification card issuance.

(e) A wastewater treatment certified operator needing a replacement or duplicate certificate must submit a written request to the commissioner, including the following information:

(1) The class of wastewater treatment operator.

(2) The name and classification of the wastewater treatment plant to be operated.

(3) The date of issuance of the original certificate, if known.

(4) The certificate number.

(f) The commissioner shall accomplish the following:

(1) Issue a renewal notification to each certified wastewater treatment plant operator stating the following:

(A) The expiration date of the certified operator’s certification card.

(B) The amount of fee required for certification card renewal.

(2) Mail certification card renewal notifications:(A) at least thirty (30) days prior to expiration of the certification card; and

(B) to the last known address filed with the commissioner.

(3) Renew a certification card if:

(A) the continuing education requirements of section 15 of this rule are met;

(B) a renewal fee is submitted on or before the first day of July of the biennial period for which a certification card is to be issued; and

(C) the notice is signed and returned by the certified operator to the commissioner.

(4) Reinstate certification if the certified operator:

(A) submits payment of any arrearage of fees;
(B) submits payment of the current renewal fee;
(C) fulfills arrearage of continuing education credit requirements; and
(D) is current in meeting continuing education credit requirements.

(5) Deny renewal of a certification card that is not renewed within the time limit established in this section and IC 13-18-11-6(c) unless the operator pursues reinstatement through reapplication and reexamination following the requirements of section 11 of this rule.

(Water Pollution Control Board; 327 IAC 5-22-14; filed Nov 20, 2000, 4:07 p.m.: 24 IR 970)

327 IAC 5-22-15 Continuing education requirements

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 15. (a) A certified wastewater treatment operator shall fulfill continuing education requirements in amounts specified in Table 15(b) during each two (2) year period following the issuance of the certification card and prior to having that certification card renewed.

(b) Continuing education credits required for certification card renewal in the following classifications of certified wastewater treatment operators are listed in the following table:

Table 15(b)

Certified Wastewater Treatment Operator Classification	Continuing Education Credits Required for Renewal
Class O.I.T.	No continuing education required; certification card not renewable
Class I-SP	5 contact hours
Class A-SO	5 contact hours
Class I	10 contact hours
Class A	10 contact hours
Class II	10 contact hours
Class B	10 contact hours
Class III	20 contact hours
Class C	20 contact hours
Class IV	20 contact hours
Class D	20 contact hours

(c) Continuing education credits required according to Table 15(b) must adhere to a distribution of subject matter according to the following:

(1) A minimum of seventy percent (70%) of the required continuing education contact hours shall be obtained from the technical category of approved continuing education courses.

(2) No more than thirty percent (30%) of the required continuing education contact hours shall be obtained from nontechnical subject matter of approved continuing education courses.

(d) A person having a valid certification card in more than one (1) wastewater treatment operator classification:

(1) may be given duplicate continuing education credit from a single approved continuing education course for each wastewater treatment certification to which the subject matter is applicable; and

(2) must obtain the greatest number of continuing education contact hours required by the various certifications held within the shared one (1) year of certification overlap in order not to be required to obtain continuing education for each certificate held.

(Water Pollution Control Board; 327 IAC 5-22-15; filed Nov 20, 2000, 4:07 p.m.: 24 IR 970)

327 IAC 5-22-16 Continuing education credit; criteria for approval

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 16. (a) Continuing education contact hour credit shall be given only for completed course work that has been approved by the commissioner according to the following:

(1) A training provider has submitted an application and received continuing education course approval from the commissioner prior to publicly offering a wastewater treatment continuing education course. The application must:

(A) be submitted on a form approved by the commissioner;

(B) be submitted no less than sixty (60) days before the first date when the course is conducted;

(C) be accompanied by a written course outline or brochure; and

(D) contain:

(i) name, address, and telephone number of a course sponsor, training provider, or other contact person;

(ii) name of course;

(iii) specific topics that are included in the course presentations;

(iv) amount of time devoted to each topic;

(v) instructor's name and qualifications, including:

(AA) educational background;

(BB) professional experience; and

(CC) current professional affiliation; and

(vi) dates and locations where the course will be offered.

(2) The wastewater treatment continuing education course meets the following requirements:

(A) The course deals with one (1) or more of the following as determined by the commissioner:

(i) Technical matters related directly to wastewater treatment.

(ii) General matters related to the responsibilities of a certified operator.

(B) Each instructor and speaker is qualified by academic work or practical experience to teach the proposed wastewater treatment continuing education course.

(b) A certified wastewater treatment operator may petition the commissioner for approval of a wastewater treatment continuing education course if the following procedures are met:

(1) An application of petition is submitted to the commissioner prior to or within thirty (30) days of course completion.

(2) The application must contain the information required by subsection (a)(1)(A), (a)(1)(C), and (a)(1)(D).

(3) The certified operator must supply written proof of attendance at the wastewater treatment continuing education course within thirty (30) days following course completion.

(c) A certified operator who is an instructor or speaker at a wastewater treatment continuing education course shall be credited the same number of contact hours as the students of the course.

(d) Continuing education contact hours earned in another state, whether that state has reciprocity with Indiana for the purpose of transferring a certificate of wastewater treatment operator competency, may be eligible for credit if the following are met:

(1) The commissioner is provided the information required by subsection (a)(1)(A), (a)(1)(C), and (a)(1)(D) for the course work from which the contact hours were earned.

(2) The information required by subdivision (1) is submitted to the commissioner.

(3) The commissioner approves the course work from which the contact hours were earned.

(e) Partial credit shall not be given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course. *(Water Pollution Control Board; 327 IAC 5-22-16; filed Nov 20, 2000, 4:07 p.m.: 24 IR 971)*

327 IAC 5-22-17 Continuing education credit; training provider responsibilities

Authority: IC 13-14-8; IC 13-18-11-13
Affected: IC 13-18-11

Sec. 17. (a) A training provider shall generate records of each wastewater treatment continuing education course conducted that include the following:

(1) The date of the wastewater treatment continuing education course.

(2) The name of each person in attendance at the wastewater treatment continuing education course.

(3) The length of time of the course.

(4) The instructor=s name.

(5) The course content.

(6) The name of the organization sponsoring the course.

(b) Records required by subsection (a) shall be maintained for a five (5) year period following the presentation of each wastewater treatment continuing education course.

(c) A training provider must submit the information required by subsection (a) to the commissioner according to the following:

(1) On a form approved by the commissioner.

(2) Within thirty (30) days of the conclusion of the wastewater treatment continuing education course.

(Water Pollution Control Board; 327 IAC 5-22-17; filed Nov 20, 2000, 4:07 p.m.: 24 IR 972)

327 IAC 5-22-18 Suspension or revocation of certification

Authority: IC 13-14-8; IC 13-18-11-13

Affected: IC 4-21.5; IC 13-18-11-8

Sec. 18. The commissioner may suspend or revoke the wastewater treatment certificate of a wastewater treatment certified operator, following a hearing pursuant to IC 4-21.5, if it is found that the certified operator has violated any provision of IC 13-18-11-8. *(Water Pollution Control Board; 327 IAC 5-22-18; filed Nov 20, 2000, 4:07 p.m.: 24 IR 972)*

Section Three: IC 13-18-11

Chapter 11. Operator Certification

IC 13-18-11-1 Exclusion of certain water supply systems

Sec. 1. (a) As used in this chapter, "transient noncommunity water system" has the meaning set forth in IC 13-11-2-237.5.

(b) The commissioner may determine that this chapter does not apply to a transient noncommunity water system.

As added by P.L.1-1996, SEC.8. Amended by P.L.132-2000, SEC.2; P.L.1-2001, SEC.18.

IC 13-18-11-1.5 Certification program for operators

Sec. 1.5. The department shall adopt regulations to implement certification programs for operators of water treatment plants or water distribution systems. The certification program for the operators shall be classified in accordance with the complexity, size, and source of the water for the treatment system and the complexity and size for the distribution system.

As added by P.L.132-2000, SEC.3.

IC 13-18-11-2 Classification of treatment plants

Sec. 2. The commissioner shall classify all water treatment plants, wastewater treatment plants, and water distribution systems actually used or intended for use:

(1) with due regard to the:
   (A) size;
   (B) type;
   (C) character of wastes or water to be treated; and
   (D) other physical conditions affecting those plants and systems; and

(2) according to the:
   (A) skill;
   (B) knowledge; and
   (C) experience;

that the operator in responsible charge must have to successfully supervise the operation of those facilities so as to protect the public health.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-3 Plant operators

Sec. 3. The commissioner shall certify persons as to their qualifications to supervise successfully the operation of:

(1) water treatment plants;
(2) water distribution systems; and
(3) wastewater treatment plants.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-4 Plant operators; certificates of competency

Sec. 4. (a) The commissioner shall issue certificates attesting to the competency of operators. A certificate must indicate the classification of works, plant, or system that the operator is qualified to supervise.

(b) Each operator shall prominently display the operator's certificate in the office of the operator.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-5

Application; fees

Sec. 5. The commissioner shall prescribe and provide an application form for use by applicants in applying for the appropriate certificate issued under this chapter. An applicant must deposit a fee of thirty dollars ($30) at the time of making application for certification.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-6 Renewal

Sec. 6. (a) A wastewater treatment plant operator certified under this chapter may renew the operator's certificate biennially by paying a renewal fee of thirty dollars ($30).

(b) The fee is due and payable before July 2 of the year for which a renewal certificate is issued.

(c) A wastewater treatment plant operator who fails to renew a certificate for three (3) successive years may not receive a renewal certificate without reexamination.
As added by P.L.1-1996, SEC.8. Amended by P.L.132-2000, SEC.4.
IC 13-18-11-6.5
Triennial renewal of certificate
Sec. 6.5. (a) A water treatment plant operator or water distribution system operator certified under this chapter may renew the operator's certificate triennially by:
(1) paying a renewal fee of thirty dollars ($30); and
(2) meeting any continuing education requirements established by the department.
(b) The:
(1) fee is due and payable; and
(2) proof of compliance with continuing education requirements must be submitted to the department;
before July 2 of the year for which a renewal certificate is to be issued.
(c) A water treatment plant operator or a water distribution system operator who fails to renew a certificate within one (1) year after the date the certificate expires may not receive a renewal certificate without reexamination.
As added by P.L.132-2000, SEC.5.

IC 13-18-11-7 Notice of expiration

Sec. 7. (a) The commissioner shall notify by mail each person certified by the commissioner as a wastewater treatment plant operator under this chapter of the following:
(1) The date of the expiration of the operator's certificate.
(2) The amount of the required fee for renewal for two (2) years.
(b) The commissioner shall mail the notice at least one (1) month in advance of the date of expiration of the person's certificate to the last known address of the individual on file with the commissioner.
As added by P.L.1-1996, SEC.8. Amended by P.L.132-2000, SEC.6.
IC 13-18-11-7.5
Notice regarding certificate and renewal
Sec. 7.5. (a) The commissioner shall notify by mail each person certified by the commissioner as a water treatment plant operator or water distribution system operator under this chapter of the following:
(1) The date of expiration of the operator's certificate.
(2) The amount of the required fee for renewal for three (3) years.
(3) The continuing education required for renewal for three (3) years.
(b) The commissioner shall mail the notice at least one (1) month in advance of the date of expiration of the person's certificate to the last known address of the individual on file with the commissioner.
As added by P.L.132-2000, SEC.7.

IC 13-18-11-8 Suspension or revocation

Sec. 8. (a) The commissioner may suspend or revoke the certificate of an operator, following a hearing under IC 13-15-7-3 and IC 4-21.5, if any of the following conditions are found:
(1) The operator has practiced fraud or deception.
(2) Reasonable care, judgment, or the application of the operator's knowledge or ability was not used in the performance of the operator's duties.
(3) The operator is incompetent or unable to properly perform the operator's duties.
(b) A hearing and further proceedings shall be conducted in accordance with IC 4-21.5-7.
As added by P.L.1-1996, SEC.8. Amended by P.L.25-1997, SEC.9; P.L.132-2000, SEC.8.

IC 13-18-11-9 Certificates to operators from other states; reciprocity

Sec. 9. The commissioner may, upon receipt of an application and payment of the fee, issue a certificate without examination in a comparable classification to any person who holds a certificate in
any state of the United States if:
(1) the requirements for certification of operators under which the person's certificate was issued:
(A) do not conflict with this chapter; or
(B) are of a standard not lower than that specified by this chapter and the rules adopted under this chapter; and
(2) reciprocal privileges are granted to certified operators of Indiana.
As added by P.L.1-1996, SEC.8.
IC 13-18-11-10
Plant operators; certificates of competency; exceptions

Sec. 10. (a) Certificates in appropriate classification shall be issued upon application and payment of the fee to operators of wastewater treatment plants who, on July 1, 1968, hold certificates of competency attained by examination under the voluntary certification program administered by:

(1) the Indiana Water Pollution Control Association; or

(2) the Indiana Section, American Water Works Association.

However, application for a certificate under this subsection must be made not later than July 1, 1969.

(b) Certificates of proper classification shall be issued upon payment of the fee without examination to each person certified by the governing body or owner to have been in direct responsible charge of the wastewater treatment plant on July 1, 1968. A certificate issued under this subsection is valid only for that particular wastewater treatment plant, which the certificate must indicate.

As added by P.L.1-1996, SEC.8. Amended by P.L.132-2000, SEC.9.

IC 13-18-11-10.5

Issuance of certificate

Sec. 10.5. (a) The commissioner may issue a certificate to a person under this chapter if all of the following conditions are met:

(1) The person is an operator in responsible charge of a water treatment plant or water distribution system that was:

(A) in operation before September 2, 2000; and

(B) required to have a certified operator for the first time under rules adopted in accordance with guidelines published by the United States Environmental Protection Agency in the Federal Register at 64 FR 5916 et seq.

(2) The owner of the water treatment plant or water distribution system applies for a certificate for the operator in responsible charge before September 1, 2002.

(3) The certificate issued by the commissioner:

(A) is site specific; and

(B) may not be transferred to another operator.

(4) The certificate will become invalid if the classification of the water treatment plant or water distribution system for which the certificate was issued changes to a higher level.

(b) A person certified under subsection (a) must meet all requirements for certification renewal that apply to the classification of the water treatment plant or water distribution system to renew the certificate under this chapter.

(c) A person certified under subsection (a) who commences work for a different water treatment plant or water distribution system must meet the initial certification requirements for the plant or system.

(d) Notwithstanding section 14 of this chapter, a water treatment plant or water distribution system that meets the conditions of subsection (a)(1) may continue to operate if the water treatment plant or water distribution system applies to the commissioner for certification of the operator in responsible charge of the water treatment plant or water distribution system as provided in this section.

As added by P.L.132-2000, SEC.10.

IC 13-18-11-11 Plant supervision by certified plant operator; exceptions

Sec. 11. (a) All water or wastewater treatment plants and water distribution systems, whether publicly or privately owned, must be under the supervision of an operator whose competency is certified to by the commissioner in a classification corresponding to the classification of the plant or distribution system to be supervised. However, this section does not prohibit a governmental agency, a corporation, or an individual from continuing to employ in that capacity a person in responsible charge of the operations of the works if the person is certified under section 10 of this chapter.

(b) A certified operator may supervise more than one (1) plant or system if it can be shown that adequate supervision to ensure safe and effective operation is provided for all plants and systems supervised.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-12 Plant operators; vacancies; provisional certification

Sec. 12. (a) When a vacancy in a position of operator occurs due to death, resignation, extended illness, or a similar cause, the vacancy may be filled for a period not exceeding one (1) year by an operator with a provisional certification.

(b) On written request of the governing body or owner of a wastewater or public water system, the commissioner may issue a provisional certification under subsection (a) to a person with the required education and experience qualifications, until the person has had an opportunity to qualify by examination and be certified under this chapter.

As added by P.L.1-1996, SEC.8. Amended by P.L.184-2002, SEC.13.

IC 13-18-11-13 Rule

Sec. 13. The board shall adopt rules under IC 4-22-2 that are necessary to carry out the intent of this chapter. The rules must include the following:

(1) Provisions establishing the basis for classification of water treatment plants, water distribution systems, and wastewater treatment plants.

(2) Provisions establishing qualifications of applicants and procedures for examination of candidates.

(3) Other provisions that are necessary for the administration of this chapter.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-14 Plant operation by certified operators

Sec. 14. (a) A person, firm, or corporation, whether municipal or private, may not operate a water or wastewater treatment plant or a water distribution system unless the commissioner has certified the operator in responsible charge under this chapter.

(b) A person may not perform the duties of an operator in responsible charge of works described in subsection (a) without being certified under this chapter.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-15 Fees; deposit

Sec. 15. All fees collected under this chapter shall be deposited with the treasurer of state.

As added by P.L.1-1996, SEC.8.

IC 13-18-11-16

Violations

Sec. 16. A person who violates this chapter commits a Class C infraction. Each day of violation of this chapter constitutes a separate infraction.

As added by P.L.1-1996, SEC.8.

Part Three

NPDES Permit Program Information

National Pollutant Discharge Elimination System (NPDES) Overview

The State of Indiana's efforts to control the direct discharge of pollutants to waters of the state were inaugurated by the passage of the Stream Pollution Control Law of 1943. The vehicle currently used to control direct discharges to waters of the state is the NPDES (National Pollutant Discharge Elimination System) permit program. This was made possible by the passage of the Federal Water Pollution Control Act Amendments of 1972 (also referred to as the Clean Water Act). These permits place limits on the amount of pollutants that may be discharged to waters of the state by each discharger. These limits are set at levels protective of both the aquatic life in the waters which receive the discharge and human health.

The State of Indiana was granted primacy from U.S. EPA to issue these permits on January 1, 1975 through implementation of a memorandum of agreement. From 1975 to 1986 the state managed the NPDES program through the Stream Pollution Control Board with staff provided by the Indiana State Board of Health (ISBH), Division of Water Pollution Control. On April 1, 1986, the Department of Environmental Management came into existence and responsibility of the NPDES program was transferred to the Office of Water Quality.

U.S. EPA, Region V, has oversight authority for the NPDES permits program. Under terms of the memorandum of agreement, Region V has the right to comment on all draft Major discharger permits. In addition to NPDES permitting, the Office of Water Quality Permits Section has several other groups. The pretreatment group regulates the development of municipal pretreatment programs, indirect dischargers, and direct dischargers to the POTW through Industrial Waste Pretreatment (IWP) permits. Regulation of Stormwater, CSOs, and variance requests are handled through a special projects group currently known as the Wet Weather Section. Land application of waste treatment plant sludge is no longer a part of the Office of Water Quality but is now a part of the Office of Land Quality.

The purpose of the NPDES permit is to control the point source discharge of pollutants into the waters of the state such that the quality of the waters of the state is maintained in accordance with the standards contained in 327 IAC 2. The NPDES permit requirements must ensure that the minimum amount of control is imposed upon any new or existing point source through the application of technology-based treatment requirement contained in 327 IAC 5-5-2. According to 327 IAC 5-2-2, "Any discharge of pollutants into waters of the state as a point source discharge, except for exclusions made in 327 IAC 5-2-4, is prohibited unless in conformity with a valid NPDES permit obtained prior to discharge." This is the most basic principal of the NPDES permit program.

Municipal Wastewater Discharge Applications

Municipal wastewater treatment facilities may legally discharge treated wastewater into waters of the State of Indiana. The facilities must first obtain a National Pollutant Discharge Elimination System Permit also known as a NPDES Permit.

To obtain a Municipal NPDES Permit an application package must be filed with the Municipal Permits Section of the Office of Water Quality. Facilities that have an average design flow or a proposed average design flow of one million gallons (1 mgd), or more, per day, of treated sanitary waste water and/or serve a population equivalent of 10,000 or greater are considered major municipal systems and are required to file the EPA General Information Form, known as Form One and the standard Form A - Municipal. Systems with an average design flow of less than one million gallons per day (1 mgd), or the proposal of such a discharge, must file the Minor Municipal and Semi-Public Application Package. This includes minor municipal facilities, and semi-publics, as well as state and federally owned treatment plants.

New facilities must submit the appropriate application forms at least one hundred and eighty (180) days prior to the expected date of the first wastewater discharge. Existing facilities must submit the appropriate application forms at least one hundred and eighty (180) days prior to the expiration date of the existing NPDES Permit.

Industrial NPDES Permit Program

The National Pollutant Discharge Elimination System (NPDES) permit program is authorized by Section 402 of the Clean Water Act. The State of Indiana, through the implementation of a memorandum of agreement with the U.S. Environmental Protection Agency, issues NPDES permits. The purpose of the NPDES permit is to control the point source discharge of pollutants into the waters of the state such that the quality of the water of the state is maintained. The following definitions are contained in Title 327 of the Indiana Administrative Code, Article 5, Rule 1, Section 2:

- **Point Source:** any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged.

- **Pollutant:** includes, but is not necessarily limited to: dredged spoil, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, solid wastes, toxic wastes, hazardous substances, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and other industrial, municipal, and agricultural waste discharged into water.
- **Waters of the state:** such accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof, that are wholly or partially within, flow through, or border upon this state. The term does not include any private pond, any off-stream pond, reservoir, or facility built for reduction or control of pollution or cooling of water prior to discharge unless the discharge therefrom causes, or threatens to cause water pollution.

If a facility discharges pollutants from any point source into waters of the state of Indiana, then the operator of that facility must apply for a NPDES permit from the Indiana Department of Environmental Management (IDEM). The Industrial Permits Section issues permits covering discharges from all industries. The Municipal NPDES Permit Section covers discharges from sewage treatment facilities while the Pretreatment Section covers industrial facilities discharging wastewater into non-pretreatment program municipal sewage treatment systems. The following is a list of the NPDES permit application packages that pertain to industrial dischargers:

- Form 2C Application Package: Existing Dischargers of Process Wastewater
- Form 2D Application Package: New Sources and New Dischargers of Process Wastewater
- Form 2E Application Package: Facilities Which Discharge Non-Process Wastewater (i.e. noncontact cooling water)
- Public Water Supply Application Package: Facilities which discharge wastewater generated by the process of treating water for use as a public water supply (This is a downloadable Word Perfect File)

An application fee of fifty dollars ($50) and a Potentially Affected Persons form must accompany the NPDES permit application.

Overview of the NPDES Permit

The NPDES permit controls point source discharges of pollutants into the waters of the state through the establishment of effluent limitations and operating requirements. Generally, a NPDES permit is developed in the following manner:

1) Identification of all pollutants known or believed to be present in the effluent. Review of all existing information in the application and the IDEM files such as effluent quality data, current permit conditions, inspections, construction permits, and compliance status.
2) Determining applicability of EPA technology-based effluent guidelines for a discharger and the limits based on the guidelines. If EPA guidelines don't exist, development of effluent limits based on best professional judgement of the technology representing the best available treatment.
3) Determining water quality-based effluent limits for pollutants required by EPA guidelines as well as any additional pollutants believed to be present in the effluent. Water quality-based effluent limits take into account characteristics of the receiving stream such as the low flow value and hardness of the stream at the point of discharge.
4) The permit is drafted with the effluent limits based on either the technology-based limits or water quality-based effluent limits whichever are more stringent.
5) The permit may contain a time schedule for the permittee to achieve compliance with effluent limits that were either not included in the previous permit or are more stringent than the effluent limits in the previous permit. This schedule of compliance is included in the permit only if it is determined that the permittee is unable to meet the limits at the time of permit issuance. If the permit applicant is a new facility or an existing facility that is recommencing its discharge, they are not allowed a schedule of compliance.

Prior to issuance, the permit is placed on public notice for a minimum of thirty (30) days to receive comments from the public and the permittee. During the public notice period, any interested party, including the permittee, may request that a public hearing be held to allow those in attendance to present oral and written comments to IDEM regarding conditions of the permit.

IDEM must respond to all oral and written comments prior to or in conjunction with the issuance of the final permit. If permit conditions are significantly changed in response to the comments, the permit may be placed on public notice for another thirty (30) day period with the opportunity for a public hearing. There is no limit on the number of times that a permit may need to be public noticed prior to issuance.

After permit conditions are finalized, the permit is issued. Any affected party may request an adjudication of the permit including a stay of any contested permit condition within eight (8) days of permit issuance. If adjudication is not requested within eight (8) days, the permit becomes effective. The permit can be effective for no more than five (5) years unless the permittee applies for a renewal of their NPDES permit prior to the expiration date of their existing permit in which case the existing permit is automatically extended until the effective date of a new permit.

NPDES General Permit Rule Program
The NPDES general permit rule program, Title 327 IAC 15, became effective on September 30, 1992. The purpose of the general permit rule program is to provide a streamlined NPDES permitting process for certain classes or categories of industrial point source discharges. Coverage under a NPDES general permit rule is unique in that a facility operates and discharges under the requirements of the applicable general permit rule rather than the requirements of an individual permit. 327 IAC 15-1 through 15-4 establish the basic requirements for all NPDES general permit rules. Following is a list of the general permit rules and the industrial activities they regulate:

1) 327 IAC 15-7 Coal mining, coal processing, and reclamation activities
2) 327 IAC 15-8 Non-contact cooling water
3) 327 IAC 15-9 Petroleum products terminals
4) 327 IAC 15-10 Groundwater petroleum remediation systems
5) 327 IAC 15-11 Hydrostatic testing of commercial pipelines
6) 327 IAC 15-12 Sand, gravel, dimension stone or crushed stone operations
7) 327 IAC 15-13 Storm Water Run-Off Associated with Municipal Separate Storm Sewer System Conveyances
8) 327 IAC 15-14 On-Site Residential Sewage Discharging Disposal Systems within the Allen County On-Site Waste Management District
9) 327 IAC 15-15 Concentrated Animal Feeding Operations

In order to obtain coverage under an NPDES general permit rule, an applicant must submit a Notice of Intent (NOI) letter for the applicable general permit rule. The NOI letter must contain the information required by 327 IAC 15-3 and the appropriate general permit rule. In order to simplify this process, the Industrial Permits Section of the IDEM has developed a NOI letter checklist that identifies the required information for a particular general permit rule.

An application fee of fifty dollars ($50) and a Potentially Affected Persons form must accompany the NOI letter.

Pretreatment Permit Program

What is Pretreatment?
Beneath the streets of every city and many smaller communities, a system of sewers and pumps convey wastewater away from homes, factories, offices, and stores. This disposed water, which may contain a variety of domestic, commercial, and industrial wastes, flows through the sewers to a wastewater treatment plant. There, pollutants are removed and the cleansed water is discharged into an adjacent water body, such as a river, bay, lake or ocean. The residues of the treatment process (biosolids) are either used productively as a soil conditioner or disposed of as a solid waste.

Industrial plants are only one of many sources of wastewater discharged into municipal sewers. The wastewater discharged by industry is often contaminated by a variety of toxic or otherwise harmful substances not common to other sources such as the by-products of industrial processes (e.g., cyanide from electroplating shops and lead from the manufacturing of batteries). These wastes can pose serious hazards. Sewage collection and treatment systems have not been designed to treat industrial wastes. Industrial wastes can damage the sewers and interfere with the operation of treatment plants, or pass through the systems untreated. This can result in contamination of nearby water bodies and increase the cost and environmental risks of sludge treatment and disposal.

The undesirable effects resulting from the discharge of industrial wastewater into municipal sewers can be prevented. Industrial plants, using proven pollution control techniques, can remove pollutants from their wastewaters before discharging them into the municipal sewage treatment system. This practice is known as "pretreatment".

National Pretreatment Standards
The federal government has developed national regulations or "standards" that restrict industrial pollutants discharged into sewage systems. Individual POTWs must impose limitations (via a Sewer Use Ordinance) that may be stricter than the national standards, but cannot allow less stringent levels of control. The national pretreatment standards consist of two sets of rules, prohibited discharge standards and categorical pretreatment standards.

Prohibited Discharge Standards
The National Prohibited Discharge Standards forbid certain types of discharges by any sewage system user (40 CFR 403). The standards apply to all industrial/commercial system users whether or not they are covered by categorical pretreatment standards.

The general prohibitions forbid pollutants to be discharged into the sewage system if they pass through the POTW untreated and cause the POTW to violate its NPDES permit, or if they interfere with POTW operations (including sludge disposal).

Categorical Pretreatment Standards
Categorical Pretreatment Standards are pollution control regulations for specific industries. The standards regulate the level of pollutants in the wastes discharged into the sewage system from an industrial process. Each categorical standard covers one industry category and assigns specific end-of-process limits for the process wastestreams covered by that specific category.

Pretreatment Cities
There are currently forty-five (45) pretreatment cities in Indiana that run local pretreatment programs. If you are discharging process wastewater to one of these city POTWs, you must apply for a discharge permit through that local program. Each program conducts it's own permitting, inspecting, sampling and enforcement. The POTW shall control, through permits or another control mechanism, the contribution to the POTW from each Significant Industrial User [40 CFR 403.8 (f)(iii)]. IDEM oversees each program by performing occasional audits.

All Other Industries in Indiana
All categorical dischargers not located in a pretreatment city must apply to IDEM for an Industrial Wastewater Pretreatment (IWP) permit and must meet the specific requirements in an issued permit. Any Significant Industrial User must also apply for a discharge permit although the industry may not fall under a specific category. A Significant Industrial User is one that:

- Discharges an average of twenty-five thousand gallons per day (25,000 gpd) or more of process wastewater to the POTW (excluding sanitary, non-contact cooling and boiler blowdown wastewater);
- Contributes a process wastestream that makes up five per cent (5%) or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;
- Or has a reasonable potential for adversely affecting the POTW's operation or violating a Pretreatment Standard [40 CFR 403.3(t)].

Part Four

Reporting

Section One: BOD SEEDING

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MEMORANDUM

To: **All NPDES Permittees Who Must Perform Biochemical Oxygen Demand (BOD) Testing**

From: **Bruno Pigott, Assistant Commissioner**
Office of Water Quality

Subject: **Policy for Seeding Biochemical Oxygen Demand Final Effluent Samples**

Date: **January 10, 2006**

During reference sample testing programs conducted each year it is noted that many small facilities do not seed their final effluent BOD samples during disinfection season. Since no seeding of the final effluent is done, the final effluent sample is not taken at the outfall but prior to disinfection.

The NPDES permit language states in PART I, Section A.1. "The permittee is authorized to discharge from Outfall (specific number). The permittee shall take samples and measurements to meet the effluent limitations and monitoring requirements at a location representative of the discharge." Sampling prior to disinfection to avoid seeding BOD samples should not be considered representative of the discharge at the designated Outfall.

BOD samples that have been disinfected require seeding. See *Standard Methods for the Examination of Water and Wastewater* 20th Edition, p.5-4, Sections 4.d.1 and 4.e.2.

Enclosed with this memo is a BOD Seeding Procedure to use. (If you have already been seeding your final effluent BOD samples and have a working seed procedure continue to use it.) BOD seeding procedures should only be used during the disinfection season; no seeding of BOD samples is necessary during the remainder of the year.

Although the seeding issue clarification is thought to be primarily necessary for small municipal facilities, we are sending this message to all NPDES permittees with BOD reporting requirements. Any questions regarding the permit language should be addressed to either Jerry Dittmer, Municipal Permits Section Chief at 317-233-0469 or Beth Tallon, Industrial Permits Section Chief at 317-232-8706. Questions regarding the seeding procedure should be addressed to Barbara McDowell, Compliance Evaluation Section at 317-233-6464.

BOD Seeding Procedure
Initial Study

Before planning to seed samples, conduct a study to determine the amount of seed to add to seed controls and samples.

Preparation of Seed:

1. Collect a raw influent grab sample the day before performing the test. If the influent contains significant industrial loading, settled mixed liquor may provide a better seed than raw influent. If used for seed, settled mixed liquor does not need to be incubated at 20 °C overnight. Seed can also be commercially obtained. There are at least two products widely in use: BioSeed ™, and PolySeed ™. NOTE: Raw influent grab sample should be taken at the same time of day each time seeding material is needed. This will help insure that samples are somewhat uniform.
2. Place raw influent grab sample in incubator (20°C) overnight.

Preparation of Seed Controls – Initial Study

3. Take the incubated raw influent sample out of the incubator -- DO NOT MIX.
4. Pipet 3, 6, 9, 12, 15, and 18 mLs of the clear supernatant into six BOD bottles respectively.
5. Fill these six bottles with BOD dilution water.
6. Determine the initial dissolved oxygen ($DO_{initial}$) on each of the six bottles.

Calculation of Seed Correction-Initial Study

1. After the 5 day incubation, determine the final dissolved oxygen (DO_{final}) on each of the six seed controls set up in the section above.
2. Ideally, one of the six seed controls will have close to 50% dissolved oxygen depletion. If this 50% dissolved oxygen depletion is not obtained, repeat the **Initial Study** using larger volumes of the clear supernatant until the 50% dissolved oxygen is obtained. NOTE: each study will require that you start with a new raw influent grab sample which has been incubated and allowed to settle overnight.
3. For each seed control dilution analyzed, calculate the DO lost per mL of seed used as follows:

$$\frac{DO_{initial} - DO_{final}}{\text{mL raw influent supernatant used}}$$

Example: 9 mLs of incubated raw influent supernatant was added to a 300 mL BOD bottle and the bottle was then filled with BOD dilution water. The $DO_{initial}$ = 8.8 mg/L. After the 5 day incubation period, the DO_{final} = 4.3 mg/L. Using the formula above:

$$\frac{8.8 \text{ mg/L} - 4.3 \text{ mg/L}}{9 \text{ mLs seed added}} = \frac{4.5 \text{ mg/L}}{9\text{mL}} = 0.5 \text{ mg/L DO lost per mL of seed added}$$

4. Use the same rule for DO depletion criteria as in all other BODs (at least 2.0 mg/L DO depletion and at least 1.0 mg/L residual DO (after 5 days) (*Standard Methods*, 18th Edition).
5. If more than one of the seed controls meets the DO depletion criteria, referred to in #4, calculate the average DO lost per mL of seed (See Table 1).

Table 1

Initial study to determine how many milliliters of incubated raw influent supernatant (seed) to use in seed controls

Bottle #	Seed Added (mL)	$DO_{initial}$ (mg/L)	DO_{final} (mg/L)	DO Lost (mg/L)	DO Lost per mL of Seed
A	3	8.9	7.4	1.5	***
B	6	8.8	5.9	2.9	0.48
C	9	8.8	4.2	4.6	0.51
D	12	8.7	2.8	5.9	0.49
E	15	8.8	1.4	7.4	0.49
F	18	8.8	0.2	8.6	***

*** = Did not meet the criteria of 2.0 mg/L DO loss or 1.0 mg/L DO residual

In Table 1 above, it is observed that the sample with 9 mLs of Seed Added lost approximately 50% of the $DO_{initial}$, thus by setting up Seed Controls with 6, 9, and 12 mLs respectively, we can be fairly confident that at least one of the Seed Controls will give you a DO depletion which meets the criteria referenced in #4.

Using Table 1, the average DO lost per mL of Seed Added =

$$\frac{0.48 + 0.51 + 0.49 + 0.49}{\text{Number of valid results}} = \frac{1.97}{} = 0.49 \text{ DO lost/mL of Seed Added}$$

This 0.49 DO lost/mL of Seed Added is the SEED CORRECTION

Calculating Amount of Seed to Add to the Effluent Sample – Initial Study

6. If the seed correction falls in the range of 0.6 – 1.0 per milliliter of seed, it should be sufficient to add 1 mL. of seed to each of your BOD bottles when you are conducting your usual tests. If the seed correction falls in a range below 0.6 and the seed controls met the DO depletion criteria, the amount of seed added to each of your BOD bottles will need to be such that the number of mLs. added multiplied by the seed correction falls within the range of 0.6 to 1.0.

   For example: seed correction is 0.3, if 2 mLs. are added to BOD samples
   0.3 x 2 = 0.6

   seed correction is 0.4, if 2 mLs. are added to BOD samples
   0.4 x 2 = 0.8

   Now you should have a reasonable idea of what volumes of seed (clear supernatant) will be needed to add to your final effluent BOD samples to meet the depletion criteria.

Seeding Procedure for Your Daily Final Effluent BOD Testing

Preparation of Seed

1. Follow steps 1 and 2 in Initial Study under Preparation of Seed.

Preparation of Seed Controls

2. Using calculations determined in your initial study that include the volumes that gave approximately 50% depletion, follow steps 1 through 4 in the initial study instructions under Preparation of Seed Controls. NOTE you will only be using 3 dilutions not 6 as in the initial study.

Preparation of Seeded BOD Samples

3. Fill the bottles approximately $^1/_3$ to ½ with dilution water.
4. Pipet amount of seed (supernatant) that you have already determined will give the needed depletion into each of your final effluent BOD sample bottles.
5. Add the appropriate amount of sample (final effluent) to each of the bottles.
6. Complete the filling of the BOD bottles with dilution water.
7. Determine the initial dissolved oxygen ($DO_{initial}$)on each of the bottles.

Calculation of Seed Correction

8. After the 5 day incubation, determine the final dissolved oxygen (DO_{final}) on each of the three seed controls set up in the section above (and the final dissolved oxygen (DO_{final}) on the rest of your BOD samples as is normal).
9. Follow steps 3, 4, and 5 in Calculation of Seed Correction – Initial Study.

Calculation of BOD_5 in Sample

10. BOD_5 = BOD mg/L = ($BOD_{initial}$ - BOD_{final}) – seed correction x dilution factor

$$\text{Dilution factor} = \frac{300}{\text{Sample size (mL)}}$$

The following page contains a sample chart that should help you understand the calculations involved with seeded BOD samples.

Bottle #	Sample	% Dil.	Seed Added (ml)	DO initial	DO final	DO lost	DO lost/ml of seed	*Seed Correction	Corrected DO lost	BOD_5 mg/L
A	Blank	-----	---------	8.8	8.6	0.2	---------	---------	---------	-------
B	Blank	-----	---------	8.8	8.7	0.1	---------	---------	---------	-------
C	Seed Control	-----	9	8.8	6.4	2.4	0.27	---------	---------	-------
D	Seed Control	-----	18	8.8	3.6	5.2	0.29	----------	---------	-------
E	Final	66	3	8.7	5.9	2.8	---------	0.8	2.0	3.0
F	Final	99	3	8.9	4.9	4.0	---------	0.8	3.2	3.2

% Dil. = Sample Volume (mL)/300 mL total volume in BOD bottle x 100

DO lost = DO initial - DO final

DO lost/mL of seed = DO lost/Seed Added (mL)

* Seed Correction = (DO lost/ml of seed)(3) as 3 mL of seed was added to the samples

Corrected DO lost = DO lost - Seed Correction

BOD_5 = Corrected DO lost/decimal equivalent of percent dilution (a 66% dilution would be entered as 0.66 on the calculator)

After averaging the final BOD_5 results, you would report a Final BOD_5 of 3.1 mg/L.

Procedure for Dechlorinating Final Effluent BOD Samples

In some samples residual chlorine may dissipate within 1 to 2 hours of standing in the light. For samples in which chlorine residual does not dissipate in a reasonably short time, destroy chlorine residual by adding Na_2SO_3 solution.

Reagents:

1+ 50 Sulfuric or 1+1 Acetic Acid
Sodium Sulfite 0.025N (dissolve 0.157 g. Na_2SO_3 in 100 mLs of distilled water) prepare fresh each time needed
10% Potassium Iodide (KI) solution
Starch (commercially available starch solution may be used)

Procedure

1. Prepare starch indicator solution, if necessary or use commercially available solution.
2. To 5 g. starch, add a little cold water and grind to a thin paste. Pour into 1 L of boiling DI water, and let settle overnight. Use the clear supernate. Preserve with 1.25 g. salicylic acid and 4 g. zinc chloride.
3. Measure 100 mL of sample and pour it into a 250 mL Erlenmeyer flask.
4. Add 1.0 mL of 1+ 50 sulfuric or 1+1 acetic acid to the flask
5. Add 1.0 mL. 10% KI solution to the flask.
6. Add 2 mLs of starch indicator solution to the flask and gently swirl to mix the contents. The solution will turn blue if chlorine residual is present.
7. Add sodium sulfite dropwise to colorless endpoint. Record the number of drops that were added to reach the endpoint.
8. Dechlorinate the sample by adding the proportionate amount of sodium sulfite (determined in step 7). For example: add 1 drop to 100 mLs., then add 5 drops to 500 mLs.
9. Twenty minutes after dechorinating sample, repeat steps 3 – 6. If the sample has been properly dechlorinated the sample will remain colorless.

Caution: sodium thiosulfate and sodium sulfite have an oxygen demand of their own and can cause erroneously high BOD results if used in excess. Never add more than is necessary.

Procedure for Dechlorinating Final Effluent BOD Samples (quick method)

In some samples residual chlorine may dissipate within 1 to 2 hours of standing in the light. For samples in which chlorine residual does not dissipate in a reasonably short time, destroy chlorine residual by adding $Na_2S_2O_3$ solution.

Reagents and equipment:

DPD colorimeter
DPD Powder Pop Dispenser or DPD Powder pillows for chlorine
Sodium Thiosulfate ($Na_2S_2O_3$) 10%

Procedure:

Use a DPD colorimeter to test the final effluent sample that has been standing to allow chlorine residual to dissipate. **If chlorine is present**, add 1 drop of 10% Sodium Thiosulfate to 1 L. of effluent sample. Shake and retest. **If necessary**, add 1 more drop of Sodium Thiosulfate. Since Sodium Thiosulfate is very effective in neutralizing the chlorine, usually 1 drop is sufficient. Use the Sodium Thiosulfate with caution; can cause erroneously high BOD results since it has an oxygen demand if added in excess. Never add more than is necessary.

Once final effluent sample is dechlorinated, proceed with preparation of BOD samples and seed the final effluent samples according to BOD seeding procedure.

SectionTwo: Chlorine –Test Methods & Detection Limits

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MEMORANDUM

To: **All NPDES Permittees Who Must Perform Total Residual Chlorine Testing**

From: **Bruno Pigott, Assistant Commissioner**
Office of Water Quality

Subject: *Important Information Regarding Chlorine Test Methods and Detection Limits*

Date: **January 10, 2006**

Currently there are three test methods for chlorine that are considered acceptable to IDEM:

1. DPD colorimetry
2. Amperometric titration
3. The Orion electrode.

NOTE THIS INFORMATION ABOUT DPD COLORIMETERS:

- The limit of detection (LOD) on most colorimeters is 0.01mg/L.
- **The equipment CANNOT detect 0.00 mg/L concentrations of chlorine.**
- Readings less than 0.01 should always be reported on the MRO (or MMR) as < 0.01, never as "0", and should be reflected on the DMR.

Color comparators that use a color wheel or chart and the human eye to determine chlorine levels are not acceptable test methods.

Any questions regarding chlorine test methods or any parameter test method should be directed to Barbara McDowell at 317-233-6464, or e-mail: bmcdowel@idem.in.gov.

Section Three: *E. Coli* – Testing and Reporting Policy Information

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IMPORTANT MEMORANDUM

To: **All NPDES Permittees Who Must Perform *E.coli* Testing**

From: **Bruno Pigott, Assistant Commissioner**
Office of Water Quality

Subject: **Accepted Methods for *E.coli* Detection and Enumeration**

Date: **January 10, 2006**

The Indiana Department of Environmental Management (IDEM) currently requires all municipal-type NPDES permittees to enumerate *Escherichia coli (E. coli)* bacteria during the disinfection season. Industrial NPDES permittees on a case-by-case basis may also have to enumerate *E. coli*.

The following methods may be used by Indiana NPDES permittees for detection and enumeration of *E.coli*:

- **Method 1103.1 using the original m-TEC agar**
- **Method 1603 using the modified m-TEC agar**
- **Membrane filter method using Coliscan MF™ media**
- **SM Method 9223 B using Colilert™**

Any questions should be directed to Barbara McDowell, 317-233-6464 of my office.

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MEMORANDUM

To: **All NPDES Permittees Who Must Perform *E.coli* Testing**

From: **Bruno Pigott, Assistant Commissioner**
Office of Water Quality

Subject: **Policy for Reporting "Too Numerous to Count" (TNTC) Data for *E. coli* Testing**

Date: **July 1, 2005**

Utilization of this TNTC policy should not become necessary in any but the rarest of situations. Any questions regarding this policy should be directed to Barbara McDowell at 317-233-6464 or bmcdowel@idem.in.gov

For Testing Methods Utilizing a Membrane Filter:

NPDES permits require that the monthly average of *E. coli* be less than 125 colonies per 100 milliliters (mL) of filtered sample. *Standard Methods for the Examination of Water and Wastewater* 20th Edition – pages 9-59, indicate that the allowable maximum number of colonies per plate (filter) is 200. The optimum count is in the range of 20 to 80 colonies, with an ideal sample yielding about 50 colonies. (If no filter has a count falling in the optimum range, meaning in the range of 20 to 80 colonies, total the colonies on all filters and report as number per 100 mL) (See 20th Edition – pages 9-61 for detailed examples.)

Even though filtration of 100 milliliters (or lesser volumes) normally produces an acceptable colony count for disinfected effluent, occasionally the count for these normally acceptable dilutions may exceed 200 colonies per plate.

To prevent such an occurrence we are strongly recommending that laboratory personnel *routinely* run a 1.0 milliliter dilution *along with* the normally acceptable dilutions for each test.

If all dilutions for that test, including the 1.0 mL dilution, result in plates (filters) that are deemed TNTC, the number reported for the 1.0 mL test should be 63,200. This number should be reported on the Monthly Report of Operations (MRO) as the *E.coli* result for that day and should be included in the monthly average calculation.

Justification: If the 1.0 mL plate is deemed TNTC, then the actual count is likely to be somewhere between 20,000 (maximum count for a 1.0 mL dilution) and 200,000 (maximum count for a 0.1 mL dilution). **The TNTC number of 63,200 is the geometric mean of those two numbers.**

For the Colilert Using Quanti-tray Procedure:

Even though filtration of 100 milliliters (or a lesser volume that you have determined) normally produces an acceptable Quanti-tray, very occasionally these normally acceptable dilutions may result in all wells on the Quanti-tray fluorescing.

To prevent such an occurrence we are strongly recommending that laboratory personnel *routinely* run a 10.0 milliliter dilution *along with* the normally acceptable dilution for each test.

If all dilutions for that test, including the 10.0 mL dilution, result in trays that are fully fluoresced, the number reported for the 10.0 mL test should be 76,000. This number should be reported on the MRO as the *E.coli* result for that day and included in the monthly average calculation. (However, if your facility is using an Excel spreadsheet MRO supplied by IDEM, you do not have to alter the default value assigned to TNTC results by the spreadsheet.)

Justification: If the 10.0 mL tray is fully fluoresced, then the actual count is likely to be somewhere between 24,192 (maximum count for a 10.0 mL dilution) and 241,920 (maximum count for a 1.0 mL dilution). **The reportable number of 76,000 is the approximate geometric mean of those two numbers.**

Section Four: Wet Weather – Monitoring & Reporting

State Form 4336

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

MEMORANDUM

Date: July 16, 2001

To: **All Class I, II, and III Facilities**
From: **Len Ashack, Chief**
Compliance Branch, OWQ
Subject: **Monitoring and reporting during wet weather biosolids wash out events**

Many wastewater treatment facilities experience increased flows during rain events due to varying degrees of infiltration and inflow of stormwater into sewer systems. In some cases, these increased flows can be so severe as to cause mixed liquor solids to wash out over secondary clarifier weirs. These washed out solids can clog rapid sand filters, can be depositing in polishing ponds, or can be discharged to the receiving streams. In addition to the requirement that the operator take all reasonable steps to prevent or minimize the wash out of solids to receiving streams, additional monitoring and reporting requirements may also apply. The following guidelines are intended to clarify these monitoring and reporting requirements:

1. NPDES Permits require representative sampling of the effluent. Samples and measurements taken as required shall be representative of the volume and nature of the monitored discharge. Any time the operator becomes aware of, or has reason to believe that there are significant changes in effluent quality, as happens when wash outs occur, sampling must immediately begin, and continue for the duration of the event. Such representative sampling is required even if the event occurs during a day or time when samples are not normally collected. For example: Ifsampling normally occurs Wednesday through Friday and it rains on Monday, then samples should be taken on Monday. The facility would then include this sample with the samples taken on W-F (although only sampling on two of those days would then be mandatory).

2. In accordance with 327 IAC 5-2-8(3), permittees are required to take all reasonable steps to minimize any adverse impacts to waters of the State resulting from noncompliance with any effluent limitations specified in their NPDES Permit. This requirement includes such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. Analytical results from the above-described representative sampling shall be used to determine the nature and impact of any discharge, which significantly violates NPDES Permit parameters. Mitigation of adverse impact may include the physical removal of sludge solids deposited in the receiving stream.

3. The results of any additional monitoring must also be included in the Monthly Report of Operations (MRO) and the data must be used in the calculation of values reported on the Discharge Monitoring Report (DMR).

4. Unanticipated bypassing of tertiary treatment units, for example rapid sand filters or polishing ponds, due to hydraulic and/or solids over-loading must be reported orally or via the Bypass/Overflow Incident Report Fax form within 24 hours of the event. If reported orally, a written report must be submitted within 5 days. Representative sampling of effluent must commence immediately when such bypassing occurs as outlined in #1 above.

5. In addition, NPDES Permits require that any discharge of pollutants to waters of the State which results in damage, acute injury, or death to any humans, animals, or aquatic life, be reported as soon as possible, but within two hours after the permittee becomes aware of it. This includes any discharge regardless of whether or not it is authorized by the Permit (e.g. sanitary sewer overflows from lift stations or manholes). These occurrences are to be reported to IDEM's Emergency Response Section at 317-233-7745 or 888-233-7745 (toll free in Indiana).

To assure timely, and comprehensive compliance with the above requirements, it is also recommended that all facilities, especially those which experience periodic, rain-induced wash outs or excessive flows, develop a written protocol for coordination of activities, which can be implemented during such events. The protocol should be included in the Facility Operation and Maintenance Plan. Questions regarding this matter may be directed to Don Daily, Chief, Compliance Evaluation Section at ddaily@idem.IN.gov or 317/232-8636.

Overflow Reporting

The following is a summary of the reporting requirements regarding overflows from combined sewers during dry weather and from sanitary sewer systems.

Any release of raw sewage from a sanitary collection system prior to a treatment plant constitutes a sanitary sewer overflow (SSO). Every system in the state is vulnerable to, and has the potential to, have an SSO. Most SSOs occur as a result of pipe blockages or breaks, excessive infiltration and inflow, or power failures. SSOs threaten public health, public and private property, and surface and ground waters. All SSOs are prohibited and must be promptly reported to the Indiana Department of Environmental Management (IDEM), Office of Water Quality.

Should a combined sewer overflow not caused solely by rainfall or an SSO release occur, the facility is required to notify IDEM's Office of Water Quality within 24 hours of becoming aware of the event **(that time limit is reduced to two hours if the discharge point is not listed in an NPDES permit and pollutants reach waters of the state)** and in writing within five days of the event. The information provided must include the location, duration, estimated volume and cause of discharge as well as the remedial action taken to eliminate it. The best way to comply with the reporting requirements is to fax a report using State Form 48373 (found on following page). **If the discharge is resulting in a fish kill or other severe environmental damage, the release must be immediately reported to the spill response line** (the phone number is found on the State Form 48373). (888-233-7745) All overflows must also be reported in the monthly reports.

In most cases, diversion from combined sewers though permitted CSO outfalls solely caused by rainfall need not be reported except in the monthly reports of operations and the CSO discharge monitoring report forms.

BYPASS / OVERFLOW INCIDENT REPORT

State Form 48373 (R3 / 10-05)
Indiana Department of Environmental Management
Office of Water Quality

INSTRUCTIONS: Complete all parts of this form and fax it to Office of Water Quality, Compliance Evaluation Section at (317) 232-8637 or 232-8406. This report will satisfy the Office of Water Quality (OWQ) telephone and written bypass / overflow reporting requirements of your NPDES permit. To speak with someone in OWQ, call (317) 232-8670.

To report a spill or if the release is resulting in a fish kill or other severe environmental damage, immediately report the release to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

GENERAL INFORMATION		
Facility Name:	County:	NPDES Permit Number:
Individual Making Report:	Phone Number:	Date & Time IDEM Notified:

RELEASE INFORMATION			
Date & Time Release Began:	Date & Time Release Stopped:	Location Released From: *(Address & Description of Manhole, Lift Station, Force Main, etc.)*	Receiving Area: *(Ground, Stream Name, Storm Sewer, etc.)*

Amount of Flow Released:	WWTP Flow During Release:	WWTP Peak Design Flow:
Check one: ☐ Estimated ☐ Actual		

Description of the Bypass or Overflow: *(Check All That Apply)*
☐Untreated Release ☐Partially Treated Release ☐Bypass of a Treatment Process ☐Blended With Final Effluent & Sampled

Describe any damage to aquatic life or receiving stream:

Reason for Bypass/Overflow:
☐ Construction Related ☐ Power Failure ☐ Equipment Failure ☐ Precipitation _____ Inches

Additional Information:

Actions Taken to Prevent, Minimize, or Mitigate Damage:

Actions Taken or Planned to Prevent Recurrence:

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CERTIFICATION AND SIGNATURE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE:_____ DATE:_____

NONCOMPLIANCE 24-HOUR NOTIFICATION FAX REPORT

State Form 52415 (10-05)
Indiana Department of Environmental Management
Office of Water Quality

INSTRUCTIONS: Complete all parts of this form and fax it to Office of Water Quality, Compliance Evaluation Section at (317) 232-8637 or 232-8406. Thorough completion of this report will satisfy the Office of Water Quality (OWQ) telephone and 5-day written noncompliance notification reporting requirements of your NPDES permit. To speak with someone in OWQ, call (317) 232-8670.

Any **noncompliance which may pose a significant danger to human health or the environment must be immediately reported** to the Emergency Response Section spill response line at: (317) 233-7745 or toll free within Indiana at (888) 233-7745.

FACILITY INFORMATION				
Facility Name:			County:	NPDES Permit Number:
Individual Reporting:			Phone Number:	Reporting Date:
NONCOMPLIANCE INFORMATION				
Date:	Outfall:	Parameter:	Permit Limit: *(Units/Daily/Weekly/Ave/Max/Min)*	Monitored Value:
Date:	Outfall:	Parameter:	Permit Limit: *(Units/Daily/Weekly/Ave/Max/Min)*	Monitored Value:

Description of the Noncompliance and its Cause:

Description of the Period of Noncompliance, Including Exact Dates and Time, and if the Noncompliance has not been Corrected, the Anticipated Time it is Expected to Continue:

Steps Taken or Planned to Reduce, Eliminate, and Prevent Reoccurrence of the Noncompliance:

CERTIFICATION AND SIGNATURE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE:_____ DATE:_____

Section Five: Monitoring Report Forms

Included in this section are the following forms:

1. Discharge Monitoring Report (DMR) & Instructions for Completion.
2. CSO DMRs, Instructions for Completion, and Frequently Asked Questions
3. Monthly Monitoring Report (MMR) & Instructions for Completion.
4. Monthly Report of Operators (MRO) – Activated Sludge Type Wastewater Treatment Plant
5. MRO – Trickling Filter or RBC Wastewater Treatment Plant
6. MRO – Sequencing Batch Reactor Wastewater Treatment Plant
7. MRO – Package Type Wastewater Treatment Plant
8. MRO – Lagoon Type Wastewater Treatment Plant

If you are viewing this Manual online, please refer to the links on the Wastewater Operator Certification Manual main page under the heading "Reporting – Related Links" to view the above-referenced documents.

Part Five

Associated Topics for Wastewater Treatment

**Protecting Your Community's Assets*...* is a publication of the National Environmental Services Center, an affiliate of West Virginia University. Bound copies are available by contacting WVU at http://www.nesc.wvu.edu or 1-800-624-8301.

Section One: **Notices and Reporting Updates**

Monthly Report of Operation Forms

Major revisions to IDEM's Monthly Report of Operation (MRO) and Monthly Monitoring Report (MMR) forms occurred in 2002. Facilities have been notified of the revisions by letters included with the distributions of the DMR forms. Continued use of prior forms is not acceptable and may result in an enforcement action. One of the important changes in 2002 was the requirement that both the principal executive officer and the certified operator must sign the MRO.

Facilities who are using forms they have created themselves need to make sure those forms contain all the information required by IDEM's current MRO and MMR forms. IDEM's Form approvals granted prior to January 2002 were negated by the change in agency forms at that time. Anyone not using IDEM's forms, needs to formally submit their alternative forms to IDEM for approval (or re-approval, as the case may be). Those self-produced forms should be submitted to Don Daily.

MRO and MMR forms are available in Excel format from IDEM. These Excel spreadsheet forms will do most of the calculations automatically. Use of this format is dependent on the user having access to a computer with Microsoft Excel installed. Those who use IDEM's Excel MRO forms should check our web site for the updated forms developed each year.

Blank MRO and MMR forms are also available from our web site in Acrobat PDF format (blank forms to be printed and filled in by hand). Use of the PDF format is dependent on the user having access to a computer with Adobe Acrobat or Acrobat Reader (version 4.0 or higher) installed. Acrobat Reader is also available from our web site or from the Adobe web site (http://www.adobe.com). Acrobat Reader is freeware.

The web address for obtaining the forms is http://www.IN.gov/idem/water/publications/appsforms.html#mro. They may also be obtained electronically by contacting Don Daily at ddaily@idem.IN.gov. Those without web access may contact IDEM to receive either hard copies of the forms or a disk with the Excel version. To receive a hard copy of the form, call the person whose name and number appear in the upper right hand corner of your DMR form.

Notice to all Indiana NPDES Permittees

Laboratory QA/QC Manual Available Online

There is a Quality Assurance/Quality Control manual available for use by NPDES permittees. The manual is available online at IDEM's website, the specific web address is: http://www.in.gov/idem/water/compbr/inspections/index.html.

This manual is available as a guidance document for laboratory personnel. The manual contains quality assurance and quality control information, detailed methods for the basic parameters that are reportable with a National Pollutant Discharge Elimination System (NPDES) permit, checklists, and sample benchsheets. This manual should be considered a tool, which a wastewater laboratory can utilize to generate quality data.

The principal parameters monitored and reported for municipal permits include Total Suspended Solids, pH, Biochemical Oxygen Demand and may also include Total Residual Chlorine, and/or Nitrogen as Ammonia, and/or Total Phosphorus. Other municipal permit parameters will include, but are not limited to, *Escherichia coli* (*E.coli*), certain metals and oil and grease.

It is an old axiom that the result of any test procedure can be no better than the sample on which is it performed. Obtaining good results will depend to a great extent upon five major activities:

1. Collecting representative samples
2. Proper sample handling and preservation
3. Adhering to adequate chain-of-custody and sample identification
4. Adequate quality assurance and quality control
5. Properly analyzing the sample

These areas are equally important for insuring the NPDES reported data is of the highest validity and quality.

Monitoring and reporting effluent discharges under a (NPDES) permit requires specific test methods. These approved method numbers can be found in the latest edition of the CODE OF FEDERAL REGULATIONS, PROTECTION OF THE ENVIRONMENT, 40, Part 136. Only these methods are allowed for reporting purposes on the Discharge Monitoring Report (DMR) and the Monthly Report of Operations (MRO). Not every approved method is contained in this manual. The methods identified by number can be found in either: *Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020,* or *Standard Methods for the Examination of Water and Wastewater, 18th Edition, 19th or 20th Editions.* **(NOTE: The 18th, 19th, and 20th editions of *Standard Methods* are now approved and all approved methods are listed in the new version of 40 CFR 136 dated 10/23/02.)** One or both of these references or copies of the methods should be a part of every wastewater laboratory.

Certain test methods may be specified for certain parameters in the NPDES permit. The methods specified will be capable of detecting that parameter at the limits imposed in the permit. If a method is not specified and doubt arises as to the acceptability of the method, call IDEM's Office of Water Quality, Compliance Evaluation Section.

***Section Two*: Mercury Information**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

August 2002

Name and Address

Dear Sir or Madam:

Re: NPDES Permitting of Mercury

This letter is being sent to all NPDES permit holders that are classified as a major facility. The purpose of this letter is to inform you of IDEM's revised mercury monitoring and limitation requirements for NPDES permitted facilities in Indiana. Initially, revisions to mercury monitoring requirements will affect those facilities classified a "major facilities."

As described in the enclosed pamphlet, IDEM is pursuing an approach that contains short-term and long-term components. The long-term approach is directed towards permit holders that demonstrate they cannot consistently comply with mercury limits that are or will be contained in their NPDES permits. The long-term approach consists of a rulemaking specific to a state-wide mercury variance. The start of this rulemaking was announced in the June 1, 2002, Indiana Register. This letter primarily describes the short-term component and serves as an information piece for the regulated community.

On June 8, 1999, EPA approved a new mercury analytical procedure named Method 1631 [FR Vol.64, No. 109, Pages 30417-30434]. Prior to the approval of this new method, Method 245.1 and Method 245.2 were the EPA approved methods commonly used to analyze for mercury. The major difference between the two older methods and the new method, from a regulatory perspective, is that Method 1631 is considerably more sensitive and is able to measure mercury down to a level that is below mercury water quality criteria.

Specifically, Method 1631 has a level of quantitation of 0.5 ng/l (nanograms per liter or parts per trillion) whereas the level of quantitation of Methods 245.1 and 245.2 is 600 ng/l. In the Great Lakes System, the most stringent mercury water quality criterion is 1.3 ng/l. In the non-Great Lakes System, the most stringent water quality criterion is 12 ng/l. As can be readily seen, the new method is able to measure below both sets of mercury water quality criteria.

The goal of the short-term component is to continue issuing NPDES permits in a timely manner and address short-term compliance issues while addressing mercury in the NPDES permitting process:

> Upon submittal of a renewal application by a major facility, IDEM will determine whether their NPDES permit should contain a limit for mercury. If a new or more stringent mercury limit is included, the permit will also contain a compliance schedule: a 3-year schedule for a facility not in the Great Lakes system or 5-year schedule for a facility in the Great Lakes system. Compliance will be based on the new method.
>
> If a limit is not included in the renewed NPDES permit, the permit will be issued with a requirement to monitor the effluent for mercury every other month using the new method. The monitoring will be required to start within 12 months from the permit issuance date. The permit may also include a reopener clause that allows the permittee to request a reduction in the monitoring frequency if the data show that mercury does not require a limitation.

Please note that IDEM is currently revising the NPDES permit applications. Once the new NPDES permit applications are available, NPDES permit applicants will be required to provide analytical data in the renewal application for mercury using Method 1631. The new NPDES permit applications are expected to be available and required by the end of 2002. The recommended, but not required, mercury monitoring frequency for representative effluent mercury characterization for NPDES permit application purposes is bi-monthly (i.e. every other month) during twelve consecutive months.

If you have any questions, please contact Lonnie Brumfield at 317.233.2547 or email him at lbrumfie@idem.IN.gov.

Sincerely,

Jon C. Mangles, QEP
Permits Branch Chief
Office of Water Quality

Enclosures: Mercury Pamphlet
QA/QC Information

NPDES Permitting Information Paper For Application of EPA Method 1631 for Mercury

Due to the ubiquitous nature of mercury, Indiana's fish tissue analyses, and the emergent availability of laboratories that can perform EPA Method 1631 analyses, IDEM addresses low level mercury concerns in NPDES permits in the following ways:

- The goal is to continue issuing NPDES permits in a timely manner and address short-term compliance issues. Under some circumstances as supported by rules, it would be beneficial to include mercury limits or monitoring in existing and new NPDES permits. Compliance schedules (either 3-year or 5-year terms) are available for existing facilities. The permit may include a reopener clause allowing the permit to be modified to reduce mercury monitoring frequency or to grant a variance.

- IDEM is in the process of revising the water quality rules to establish a state-wide variance from mercury standards. The state-wide variance would be a streamlined process and will require a showing that the variance is needed and the implementation of a mercury minimization program before being granted. This rule revision is expected to be completed in early 2005.

Frequently Asked Questions

- Who do I contact about mercury issues in my permit?

Ms. Beth Tallon, Section Chief, Industrial Permits at (317) 232-8706 or email at btallon@idem.IN.gov.

- What commercial labs conduct low level mercury analysis in Indiana?

Mercury monitoring has become more common, therefore, IDEM has notified Indiana's commercial labs of the potential interest in mercury monitoring. IDEM will develop and maintain a list of laboratories in Indiana and neighboring states that perform EPA Method 1631.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WATER QUALITY

NPDES Permitting and Mercury

Published April 24, 2002

Wastewater Operator Certification Manual revision, 12/04

IDEM OWQ
100 North Senate Street, Room 1255
Indianapolis, Indiana 46204
Phone (317) 232-8670

Concerns

1. Mercury is a toxic metal. It is harmful to human life, aquatic life and wildlife.

2. Mercury is a neurotoxin that, if ingested in significant quantities, can affect the human nervous system limiting the ability to walk, talk, see or otherwise function.

3. Mercury has a high bioconcentration and bioaccumulation rate, which means it concentrates in animal tissue and accumulates up the food chain.

4. Mercury is a major reason there are fish consumption advisories on most streams in Indiana. Fish consumption advisories recommend limitations in the consumption of fish by adult males and females, pregnant and nursing mothers, women of childbearing age and children.

Common Sources Affecting Surface Waters

1. Coal combustion via air deposition.
2. Wastewater discharge from sewage treatment plants and industrial plants.
3. Storm water runoff.

10 Major NPDES Permitting Issues Faced By IDEM

1. Based on a limited number of fish tissue analyses, mercury appears to be present in many of Indiana's surface waters. A number of surface waters have been listed as impaired in Indiana's 303(d) list due to fish tissue data analyses that resulted in fish consumption advisories related to mercury pollution.
2. On January 12, 2001, EPA and the Food and Drug Administration (FDA) issued concurrent national fish consumption advisories recommending restricted consumption of freshwater, coastal and marine species of fish due to methyl mercury contamination.
3. EPA Method 1631 can detect mercury at levels below water quality standards.
4. Prior to the availability of this Method, it was not possible to enforce low level mercury limits due to detection limits that were above most water quality standards.
5. Based on national mercury effluent data, a large number of NPDES permitted facilities in Indiana may have mercury in their effluent and therefore have a reasonable potential to exceed mercury water quality standards.
6. At the present time, the treatment technology to remove mercury from waste water at the end-of-pipe may prove to be an economic hardship for most permitted facilities.
7. Municipalities have limited control of the mercury content in the waste waters that enters their treatment plants.
8. Mercury is found in many common domestic items, such as food coloring and human excrements which go down the sewer to the sewage treatment plant.
9. Limited surface water quality data in Indiana indicate that the ambient mercury concentrations usually exceed the mercury wildlife water quality standard of 1.3 ng/l (i.e. parts per trillion), the most stringent water quality standard.
10. Mercury pollution minimization programs may have a certain amount of effectiveness, as reported in a recent study conducted by the Association of Metropolitan Sewerage Agencies (AMSA) (http://www.amsa-cleanwater.org)

Quality Assurance and Quality Control (QA/QC) Requirements for Mercury Data

QA/QC General Requirements:

United States Environmental Protection Agency (USEPA) Test Method 1631, the test method used to acquire low-level mercury data necessary for assessing water quality with respect to the Great Lakes Initiative (GLI) mercury Water Quality Standard (WQS), is an extremely sensitive but complex test method. As a result of this sensitivity and complexity, USEPA Test Method 1631 requires a rigorous battery of QA/QC checks to be in control in order to validate mercury data. The following tables (Table A and Table B) identify and define the types of QA/QC checks required for laboratory analysis, especially for USEPA Test Method 1631 used for low-level mercury analysis:

Table A. Instrument Calibration and Standardization QA/QC Checks

Instrument Calibration and Standardization QA/QC Check	Purpose
ICB - Initial Calibration Blank	This quality control sample is analyzed immediately following instrument calibration and is used to monitor instrument baseline drift as well as contamination introduced by the laboratory environment.
CCB - Continuing Calibration Blank	This quality control sample is analyzed at prescribed intervals throughout the entire analytical run and is used to monitor instrument baseline drift as well as contamination introduced by the laboratory environment.
ICV - Initial Calibration Verification	This quality control sample is analyzed immediately following instrument calibration and is used to verify the accuracy of the instrument calibration and to monitor instrument drift and overall instrument performance.
CCV - Continuing Calibration Verification	This quality control sample is analyzed at prescribed intervals throughout the entire analytical run and is used to verify the continued accuracy of the instrument calibration and to monitor instrument drift and overall instrument performance.
IPR - Initial Precision and Recovery	After any necessary sample preparation procedures (digestion, extraction, etc.), these 4 quality control samples are analyzed immediately following instrument calibration and are used to verify the instrument and any necessary sample preparation procedures are capable of meeting the performance standards required by the various performance based EPA test methods.
OPR - Ongoing Precision and Recovery	After any necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to verify the instrument and any necessary sample preparation procedures are continually capable of meeting the performance standards required by the various performance based EPA test methods.

Table B. Sample Specific QA/QC Checks

Sample Specific QA/QC Check	Purpose
QCS – Quality Control Sample	After any necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to verify the instrument and any necessary sample preparation procedures are capable of continually meeting the performance standards required by the various performance based EPA test methods.
LCS - Laboratory Control Sample	After the necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to verify the accuracy of the instrument and the sample preparation procedures.
LFB - Laboratory Fortified Blank	After the necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to verify the accuracy of the instrument and the sample preparation procedures.
MS / MSD - Matrix Spike / Matrix Spike Duplicate	After the necessary sample preparation procedures (digestion, extraction, etc.), these quality control samples are analyzed at prescribed intervals in order to verify the accuracy and precision of the instrument and the necessary sample preparation procedures with regard to a specific sample matrix.
DUP - Method Duplicate	After the necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals in order to verify the precision of the instrument and the necessary sample preparation procedures with regard to a specific sample matrix.
Method Blank	After the necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to monitor instrument baseline drift as well as contamination introduced by the sample preparation procedures and the laboratory environment.
Field Blank	After any necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals and is used to monitor instrument baseline drift as well as contamination introduced by the sampling equipment, sample bottles, sample preservatives, field sampling techniques, the sample site conditions, any sample preparation procedures, and the laboratory environment.
Field Duplicate	After the necessary sample preparation procedures (digestion, extraction, etc.), this quality control sample is analyzed at prescribed intervals in order to verify the precision of the instrument, the overall field sampling technique, and the necessary sample preparation procedures with regard to a specific sample matrix and sampling site.

In addition to the above information, the data package must include the following:

- Initial demonstration of Method Detection Limit (MDL) or Limit of Detection (LOD) of at least 0.2 nanograms/Liter (ng/L) for Mercury; an MDL (or LOD) as low as 0.05 ng/L can be achieved for low mercury samples by using a larger sample volume, a lower Bromine Monochloride (BrCl) of 0.2%, and extra caution in sample handling
- The Minimum Level (ML) or Limit of Quantitation (LOQ) must be 3.18 times the MDL (or LOD) and preferably 5 to 10 times lower than the GLI mercury WQS of 1.3 ng/L
- A Chain of Custody Record with sample collection dates and times
- Name, location or address, telephone number, and point of contact for the contract laboratory or any subcontract laboratory
- Sample analysis date and times
- A case narrative describing deviations from USEPA Test Method 1631, QA/QC check failures or abnormalities, and information about re-analyses if applicable must also be submitted.

Section Three: Safety and Security

EPA Water Protection Task Force
Alert #IV: What Wastewater Utilities Can Do Now to Guard Against Terrorist and Security Threats
October 24, 2001

What is the Water Protection Task Force?

In October 2001, EPA established a Water Protection Task Force to ensure that activities to protect and secure water supply infrastructure are comprehensive and carried out expeditiously. The members of this group have proven expertise in different areas of water protection. As needed they will be sending alerts on issues related to protecting water infrastructure nationwide.

What is this alert?

One consequence of the events of September 11th is a heightened concern among citizens in the United States over the security of their critical wastewater infrastructure. The nation's wastewater infrastructure consisting of approximately 16,000 publicly owned wastewater treatment plants, 100,000 major pumping stations, 600,000 miles of sanitary sewers and another 200,000 miles of storm sewers, is one of America's most valuable resources, with treatment and collection systems valued at more than $2 trillion. Taken together, the sanitary and storm sewers form an extensive network that runs near or beneath key buildings and roads, and is continuous to many communication and transportation networks. Significant damage to the nation's wastewater facilities or collection systems would result in: lose of life, catastrophic environmental damage to rivers, lakes and wetlands, contamination of drinking water supplies, long term public health impacts, destruction of fish and shellfish production, disruption to commerce, the economy and our normal way of life.

Although many wastewater utilities have already taken steps to increase security, the following recommendations provide many straightforward, commonsense actions to increasing security and reducing threats from terrorism. Many of these actions are recommended by the Association of Metropolitan Sewer Agencies, the Water Environment Federation, and other leading professional organizations. The recommendations include:

I. Guarding against Unplanned Physical Intrusion

- Lock all doors and set alarms at your office, pumping stations, treatment plants, and vaults, and make it a rule that doors are locked and alarms are set;
- Limit access to facilities and control access to pumping stations, chemical and fuel storage areas, giving close scrutiny to visitors and contractors;
- Post guards at treatment plants, and post "Employee Only" signs in restricted areas;
- Control access to storm sewers;
- Secure hatches, metering vaults, manholes and other access points to the sanitary collection system;
- Increase lighting in parking lots, treatment bays, and other areas with limited staffing;
- Control access to computer networks and control systems, and change the passwords frequently;
- Do not leave keys in equipment of vehicles at any time.

II. Making Security a Priority for Employees

- Conduct background security checks on employees at hiring and periodically thereafter;
- Develop a security program with written plans and train employees frequently;
- Ensure all employees are aware of communications protocols with relevant law enforcement, public health, environmental protection, and emergency response organizations;

- Ensure that all employees are fully aware of the importance of vigilance and the seriousness of breaches in security, and make note of unaccompanied strangers on the site and immediately notify designated security officers or local law enforcement agencies;
- Consider varying the timing of operational procedures if possible so if someone is watching the pattern changes;
- Upon the dismissal of an employee, change passcodes and make sure keys and access cards are returned;
- Provide Customer Service staff with training and checklists of how to handle a threat if it is called in.

III. Coordinating Actions for Effective Emergency Response

- Review existing emergency response plans, and ensure they are current and relevant;
- Make sure employees have necessary training in emergency operating procedures;
- Develop clear protocols and chains-of-command for reporting and responding to threats along with relevant emergency management, law enforcement, environmental, public health officials, consumers and the media. Practice the emergency protocols regularly;
- Ensure key utility personnel (both on and off duty) have access to crucial telephone numbers and contact information at all times. Keep the call list up to date;
- Develop close relationships with local law enforcement agencies, and make sure they know where critical assets are located. Request they add your facilities to their routine rounds;
- Work with local industries to ensure that their pretreatment facilities are secure;
- Report to county or State health officials any illnesses among the employees that might be associated with wastewater contamination;
- Report criminal threats, suspicious behavior, or attacks on wastewater utilities immediately to law enforcement officials and the relevant field office of the Federal Bureau of Investigation.

IV. Investing in Security and Infrastructure Improvements

- Assess the vulnerability of collection system, major pumping stations, wastewater treatment plants, chemical and fuel storage areas, outfall pipes, and other key infrastructure elements;
- Assess the vulnerability of the storm water collection system. Determine where large pipes run near or beneath government buildings, banks, commercial districts, industrial facilities, or are contiguous with major communication and transportation networks;
- Move as quickly as possible with the most obvious and cost-effective physical improvements, such as perimeter fences, security lighting, tamper-proofing manhole covers and valve boxes, etc.;
- Improve computer system and remote operational security;
- Use local citizen watches;
- Seek financing for more expensive and comprehensive system improvements.

While wastewater utilities are the key to improving security of our wastewater treatment plants and collection systems, EPA, other Federal agencies, and both industry and managerial trade associations also provide help and support. EPA is working with AMSA and other groups to develop training courses and technical materials for wastewater utilities and State personnel on assessing vulnerabilities and improving security. EPA is working collaboratively with the Association of Metropolitan Water Agencies and other groups to develop an Information Sharing and Analysis Center to bolster coordinated notification and response to threats and vulnerabilities at both water and wastewater facilities. A number of technical projects are underway to help increase security of the nation's critical wastewater infrastructure.

For more information please visit the following web sites*:

EPA Water Securty: http://cfpub.epa.gov/safewater/watersecurity/index.cfm
Association of Metropolitan Sewerage Agencies: http://www.amsa-cleanwater.org
Association of Metropolitan Water Agencies: http://www.amwa.net/isac/amwacip.html
Water Environment Federation: http://www.wef.org

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If you are viewing this Manual online, please refer to the links below to view the above-referenced document.

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